

MP08-20 Overnight continuous saline irrigation after transurethral resection for superficial bladder cancer is helpful in prevention of early recurrence

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Abstract

Purpose: It has been reported that many methods prevent recurrence after transurethral resection of bladder tumor (TURB) for non-muscle invasive bladder cancer (NMIBC), but it has rarely been reported that overnight continuous saline irrigation is effective in preventing recurrence. The purpose of this study was to evaluate the efficacy of overnight continuous saline irrigation in preventing recurrence after TURB.

Materials and Methods: We retrospectively studied patients with NMIBC who underwent TURB from January 2010 to May 2015 at our institution. Patients who underwent cystoscopy every 12 weeks during the first year after surgery were included. Patients with pT2 \geq , lymph node metastasis, or distant metastasis were excluded. The overnight continuous saline irrigation (OCSI) group and the no irrigation group were compared and analyzed.

Results: A total of 332 patients were included in the study. There were no differences in the basic characteristics of the patients between the two groups. In the OCSI group, the recurrence-free survival rate was higher than that in the no irrigation group, indicating that there was a significant difference between the two groups ($P=0.032$).

Conclusions: After TURB surgery, OCSI may help prevent early recurrence of NMIBC.

Keyword: Bladder cancer, Saline irrigation, TURB

I. Objectives

To evaluate the efficacy of overnight continuous saline irrigation in preventing recurrence after TURB.

II. Methods

1. Subjects

We retrospectively reviewed patients who were diagnosed with NMIBC after TUR at our hospital from January 2010 to May 2015 and who had been followed up for 12 months postoperatively. Patients who had pT2 \geq , lymph node metastasis, or distant metastasis on computed tomography images after TUR as well as who underwent mitomycin-C (MMC) or epirubicin instillation after TUR, or repeated TUR were excluded.

2. Follow-up

Patients underwent cystoscopy every 12 weeks \pm 2 weeks during follow-up and they were followed up for 12 months. Recurrence of bladder cancer was confirmed by cystoscopy.

3. Comparison method

TUR was performed for removing the tumors completely, and a 22Fr 3-way Foley catheter was inserted and continuous irrigation was started by connecting a 3000 cc bag of normal saline to the Foley catheter in the OCSI group (using a total of 9000 cc of saline). But, after TUR was performed, a 16Fr Foley catheter was inserted and drainage was performed in the no irrigation group. The baseline characteristics and the recurrence-free survival rate of the OCSI group and the no irrigation group were compared.

4. Statistical Analysis

The standard chi-square test was used to compare the two groups and the recurrence-free survival rate was calculated by the Kaplan-Meier method with log-rank test. The statistical program used was SPSS version 21.0 for Windows. A P value <0.05 was considered statistically significant.

III. Results

Table 1. Baseline characteristics of patients

	No irrigation group (N=212)	OCSI group (N=120)	P-value
Age	66.80 \pm 12.28	67.56 \pm 12.14	0.586
Gender			
Male	178 (84.0%)	100 (83.3%)	0.881
Female	34 (16.0%)	20 (16.7%)	
Hypertension			
Yes	56 (26.4%)	28 (23.3%)	0.535
No	156 (73.6%)	92 (76.7%)	
Diabetes			
Yes	28 (13.2%)	18 (15.0%)	0.650
No	184 (86.8%)	102 (85.0%)	
Smoking Hx			
Yes	81 (38.2%)	43 (35.8%)	0.468
No	59 (27.8%)	32 (26.7%)	
Cessation (>1yr)	72 (34.0%)	45 (37.5%)	
T stage			
Ta	141 (66.5%)	68 (56.7%)	0.202
T1	58 (27.4%)	42 (35.0%)	
CIS	13 (6.1%)	10 (8.3%)	
Grade			
PUNLMP	29 (13.7%)	18 (15.0%)	0.573
Low grade	126 (59.4%)	73 (60.8%)	
High grade	57 (26.9%)	29 (24.2%)	
Size			
<3 cm	174 (82.1%)	104 (86.7%)	0.276
\geq 3 cm	38 (17.9%)	16 (13.3%)	
Multiplicity			
Single	149 (70.3%)	77 (64.2%)	0.251
multiple	63 (29.7%)	43 (35.8%)	
BCG			
Yes	97 (45.8%)	62 (51.7%)	0.300
No	115 (54.2%)	58 (48.3%)	

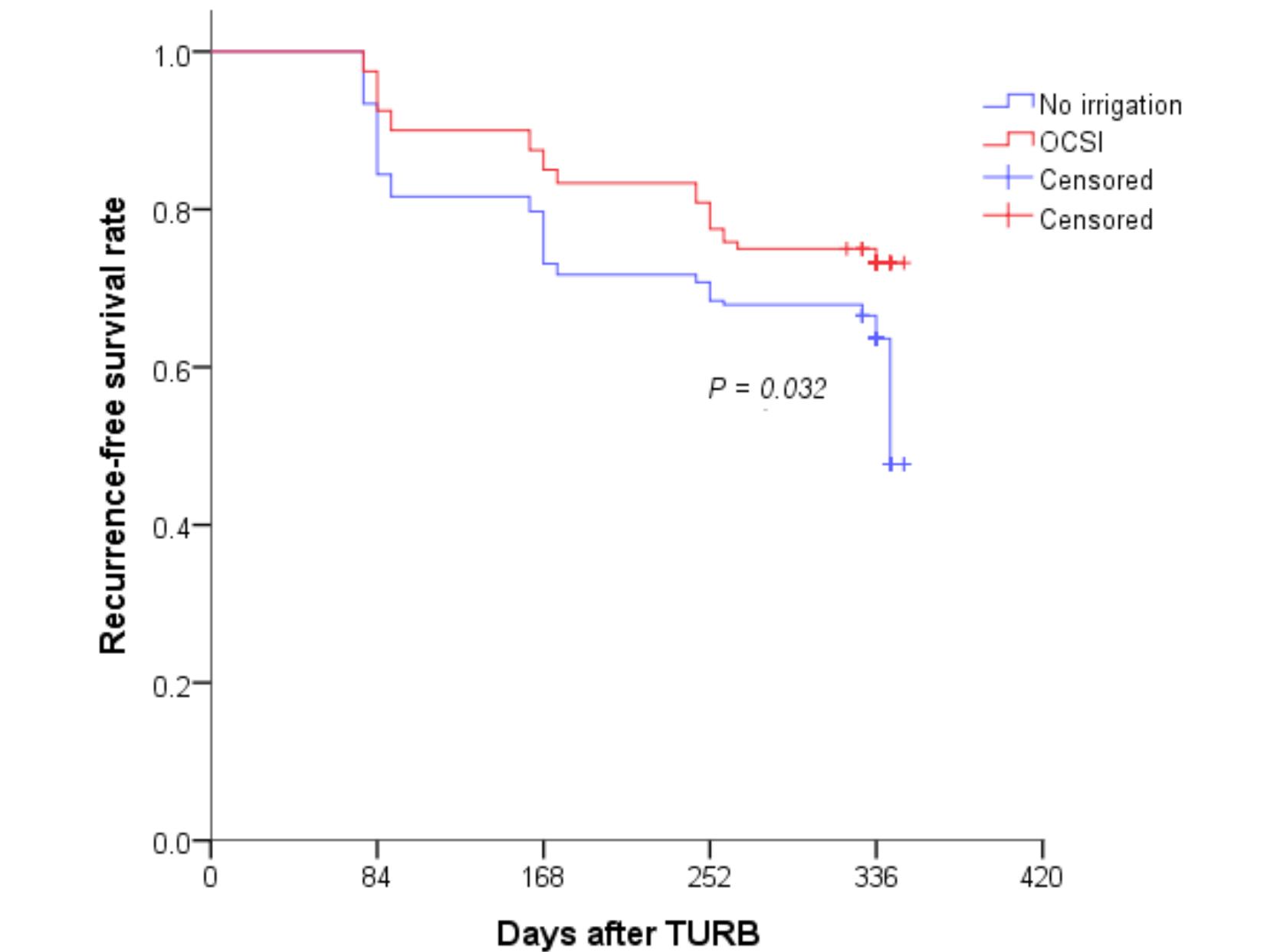
A total of 332 patients were included in the study.

The no irrigation group included 212 patients and the OCSI group included 120 patients.

No significant differences were seen between the groups in term of age, gender, hypertension, diabetes, stage, tumor grade, tumor size, number of tumors, BCG immunotherapy.

Regarding smoking, which is known as a very important risk factor, no significant differences were also seen between groups of patients who are on smoking, who do not smoke, and who quit smoking for more than one year (Table 1).

Figure 1. Recurrence-free survival rate in the overnight continuous saline irrigation group and the no irrigation group.



The mean duration of time to the initial recurrence in the no irrigation group was 277.19 ± 7.39 days (95% CI 262.70-291.68) and that in the OCSI group was 302.85 ± 8.11 days (95% CI 286.96-318.74).

In non-irrigation group, 81 patients (38.2%) had recurrence.

In OCSI group, 32 patients (26.4%) had recurrence.

The recurrence-free survival rate at 12 months after surgery was significantly higher in the OCSI group than in the no irrigation group (log-rank test $P=0.032$) (Figure 1).

IV. Conclusions

In this study, we assessed the effects of continuous saline irrigation in the OCSI group and compared this group with the no irrigation group, and the results showed that continuous saline irrigation was effective in preventing early recurrence. This study was performed at a single institution, the number of patients included was small, and the follow-up period was short; therefore, only early recurrence was observed up to 1 year after surgery, and there was a limitation that it was performed retrospectively. It is suggested that prospective, multicenter, long-term follow-up studies with more patients are needed in the future.