

NATURAL HISTORY OF URINARY OUTCOMES AFTER OPEN RADICAL PROSTATECTOMY: 8-YEAR LONGITUDINAL STUDY

Hypothesis / aims of study

The impairment of quality of life after surgery is a well-recognized occurrence. However, there is a lack of long-term follow up studies, especially those related to a later survivorship phase. We assessed the natural history of urinary continence and lower urinary tract symptoms (LUTS), over a median duration of 8.5 years, in prostate cancer survivors who underwent open radical prostatectomy (ORP).

Study design, materials and methods

Between January 2002 and March 2005, a total of 138 patients with newly diagnosed localized prostate cancer were treated with ORP at Tohoku University Hospital. The present study is the second follow-up of the original 5-year longitudinal follow-up performed since 2002. In 2012, the study questionnaire was simultaneously sent to 120 men who completed baseline data and data on at least three later occasions (3, 6, 12, 18, 24, 36, 48, or 60 months after ORP). We evaluated urinary control and distress using the University of California, Los Angeles, Prostate Cancer Index (PCI) and urinary irritation/obstruction using International Prostate Symptom Scores (IPSS). The PCI urinary function domain, which reflects dryness rather than general voiding function, is more accurately termed the urinary control domain. Urinary bother scores measured the distress associated with dysfunction. Each PCI domain is scored from 0 to 100 points which indicate better urinary control. IPSS is scored from 0 to 35, with a higher score indicating worse symptoms.

Results

We collected data from 92 subjects who presented a follow up time > 5 years (median 102 months, range: 85-123). The current median age of the survivors was 73 years. (range: 57-84). At baseline 2% of the subjects reported frequent urinary leakage. This percentage peaked 3 months after ORP, with 11% of the men reporting frequent leakage or no control. By 24 months, the proportion of men reporting this much leakage had decreased to 5%, although it increased to 8% at the follow up of more than 5 years. However, this change was not significant. Summary scores in the urinary function domain attained a nadir 3 months after ORP, but steadily increased through 24 months with little change at the 5-year follow up. The slight decrease in urinary function scores beyond 5 years postoperatively was not significant ($P=0.210$). Urinary bother had a significantly worse score at 3 months than at baseline ($p = 0.030$). At 6 months after surgery, however, it returned to baseline levels with no significant difference being observed after more than 5 years. Even more than 5 years following ORP, the change in the total IPSS was not significant compared with baseline level (7.7 vs. 8.3. $p=0.51$). Moreover, ORP had no effect on the episodes of nocturia at the more than 5-year follow up compared with baseline (1.4 vs. 1.7, $p=0.08$).

Interpretation of results

Our results suggest that the improvements in urinary control that have previously been observed in the first 2 years of post-ORP recovery remained generally stable during the extended follow-up. There was little change in IPSS, which may reflect that the time course after ORP represents the natural history of LUTS in the absence of a prostate.

Concluding message

With assessments beyond 5 years, we evaluated both the convalescent period immediately after treatment and the subsequent period in terms of functional improvement, functional plateau, or the onset of functional decline, on the basis of domain assessment. While subjects treated with ORP generally experience residual incontinence beyond 5 years, ORP appears to prevent the progression of LUTS in the majority of men presenting with or without clinically significant symptoms and the degree to which they are bothered by urinary symptoms remains stable.

Table. PCI and IPSS of patients treated with open radical prostatectomy

<i>Urinary function</i>				p Value vs. baseline	
Baseline	97	±	14		
3M	66	±	24	**	
6M	77	±	21	**	
12M	80	±	18	**	
24M	82	±	19	**	
36M	80	±	22	**	
48M	80	±	22	**	
60M	82	±	22	**	
> 5Y	77	±	21	**	
<i>Urinary bother</i>					
Baseline	90	±	24		
3M	76	±	27	*	
6M	83	±	23	*	

12M	85	±	16		
24M	85	±	20		
36M	86	±	20		
48M	86	±	20		
60M	87	±	25		
> 5Y	84	±	23		
<i>IPSS</i>					
Baseline	7.8	±	6.1		
3M	9.0	±	5.0	**	
6M	7.9	±	4.9		
12M	7.2	±	5.6		
24M	7.0	±	5.7		
36M	7.4	±	5.5		
48M	7.4	±	4.9		
60M	7.0	±	5.6		
> 5Y	8.3	±	5.2		

Data are presented as mean ± standard deviation.

Statistically significant changes from baseline are indicated as * ($p < 0.05$) and ** ($p < 0.01$), respectively.

References

1. Johansson E et al. Long-term quality-of-life outcomes after radical prostatectomy or watchful waiting: the Scandinavian Prostate Cancer Group-4 randomised trial. *Lancet Oncol.* 2011;12:891-9
2. Namiki S et al. Quality of life after radical prostatectomy in Japanese men: a 5-Year follow up study. *Int J Urol.* 2009; 16:75-81.

Disclosures

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