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THE RATIO OF PRESERVED MEMBRANOUS URETHRAL LENGTH IS THE MOST IMPORTANT FACTOR AFFECTING POSTOPERATIVE CONTINENCE RECOVERY AFTER RADICAL PROSTATECTOMY

Hypothesis / aims of study
We evaluated factors associated with postoperative continence recovery after radical prostatectomy.

Study design, materials and methods
Between January 2008 and January 2013, 382 patients underwent radical prostatectomy were evaluated, retrospectively. Age, prostate volume, preoperative serum prostate-specific antigen (PSA), Gleason score, pathologic stage, nerve sparing technique, and the type of surgical procedure were evaluated. The preoperative membranous and prostatic urethral lengths on magnetic resonance image and postoperative membranous urethral length (MUL) on peri-catheter retrograde urethrography were measured by one uro-radiologist. No pad use at 3 months after operation considered early recovery of continence and no pad use at 1 year classified as continence group.

Results
184 patients (48.17%) were continent at 3 months and 278 patients (84.76%) were continent at 1 year after operation. The age, prostate volume, PSA level, Gleason score, and pathologic stage, nerve sparing technique, and the type of surgical procedure were not significantly related between continent and incontinent groups. The preoperative membranous urethral length was longer in continent group, but it was not significant (15.16 vs 14.78mm, p=0.068). The postoperative MUL and the ratio of preserved MUL were significantly related with their continent status.

Interpretation of results
The effort of membranous urethral preservation was most important procedure in radical prostatectomy in terms of recovery of continence.

Concluding message
The MUL and preserved ratio were the most important factors affecting the recovery of continence after radical prostatectomy.

Figure 1. Image example of the measurement of the membranous urethral length on MRI

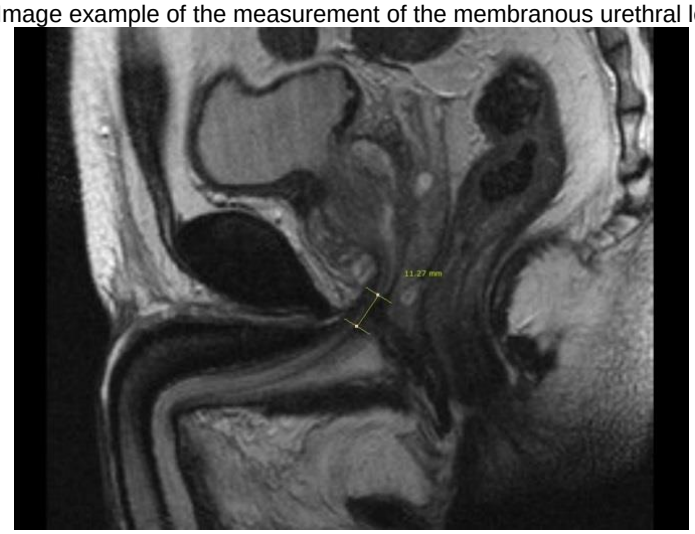

Figure 2. Image example of the measurement of the membranous urethral length on postoperative peri-catheter retrograde urethrography.

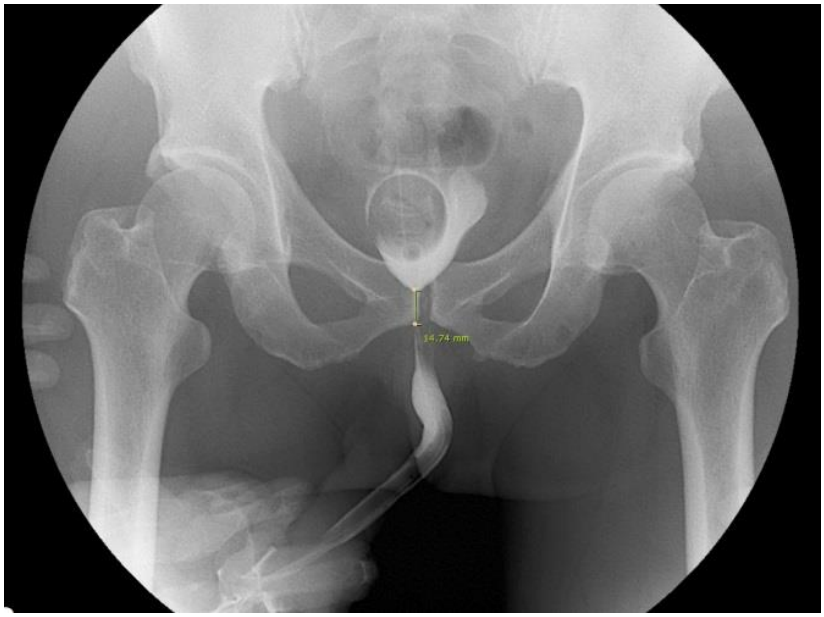

Table 1. Clinicopathological characteristics of the patients (n=328)

	Continent (n=278, 84.76%)	Incontinent (n=50, 15.24%)	*p* value
Age (mean ± SD)	67.53 ± 5.1	68.96 ± 4.8	0.121
BMI (mean ± SD)	26.1 ± 1.1	26.4 ± 2.1	0.435
PSA (mean ± SD, ng/mL)	8.9 ± 2.1	10.1 ± 1.5	0.521
Pathological T stage			
T2a	23	5	
T2b	89	11	
T2c	156	31	
T3a	10	3	
Gleason score			
≤6	97	14	
≥7	181	36	
Positive surgical margin (%)	83 (29.8)	14 (28)	0.896
Nerve sparing technique (%)			
Unilateral	102 (36.7)	11 (22)	0.061
Bilateral	81 (29.1)	9 (18)	0.065
PUL (preoperative, MRI, mm)	42.52	43.74	0.251
MUL (preoperative, MRI, mm)	15.16	14.78	0.068
MUL (postoperative, RGU, mm)	9.99	8.58	0.012
Preserved ratio of MUL	0.67	0.59	0.032

BMI: body mass index, PSA: prostate specific antigen, PUL: prostatic urethral length, MUL: membranous urethral length, RGU: peri-catheter retrograde urethrography.

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Disclosures

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