

URODYNAMIC FINDINGS AFTER RADICAL RETROPUBLIC PROSTATECTOMY USING SUSPENSION TECHNIQUE FOR RAPID RECOVERY OF CONTINENCE

Aims of Study

Urinary incontinence following radical retropubic prostatectomy still remains a common problem. Recent investigations of urethral anatomy have shown that a suspensory mechanism of the urethra is important for rapid recovery of urinary continence following radical retropubic prostatectomy. We examined urodynamic findings after radical retropubic prostatectomy comparing suspension technique to non-suspension technique.

Methods

A total of 45 consecutive patients (mean age 67.6 years) who underwent radical retropubic prostatectomy for localized prostate cancer were prospectively evaluated with multichannel urodynamics including static urethral pressure profilometry and water filling cystometry. The suspension of vesicourethral anastomosis was performed in 33 patients by placement of two stitches, anchored to the pubo-prostatic ligaments, preserving anterior attachment to the pubic bone, and the remaining 12 patients did not undergo the suspension technique. In all patients, the maximal urethral closure pressure (MUCP), functional sphincter length (FSL), maximal cystometric capacity (MCC) and abdominal leak point pressure (ALPP) were measured before the surgery, and at 1 week, 1 month, and 3 months postoperatively, and these parameters were compared between the suspension group and the non-suspension group. In addition, upright cystourethrography findings after surgery were compared on the suspension status between the two groups.

Results

The continence rates at 1 week, 1 month, and 3 months after radical prostatectomy were 67%, 82%, and 91%, respectively, in the suspension group compared to 0%, 25%, and 50%, respectively, in the non-suspension group. Postoperative ALPP at all measuring points was significantly higher in the suspension group compared to the non-suspension group (Table 1). Upright cystourethrography after radical prostatectomy in the suspension group showed the better suspension status than those in the non-suspension group (Table 2). There was no difference in MUCP, FSL and MCC at each point following radical prostatectomy between the 2 groups (Table 1).

Table 1. Urodynamic results in men with suspension and without suspension before and after radical prostatectomy

	No. pts.	Mean				Significance ^a
		Pre-ope	1W	1M	3M	
MUCP (cmH ₂ O)						
Suspension	33	68.2	34.1	51.5	62.2	n.s.
Non-suspension	12	71.8	28.3	38.3	54.5	
FSL (mm)						
Suspension	33	34.5	8.8	8.3	8.3	n.s.
Non-suspension	12	31.9	6.8	7	7	
MCC (ml)						
Suspension	33	375.3	246.8	287.2	331.2	n.s.
Non-suspension	12	397.7	224.8	273.8	312.1	
ALPP (cmH ₂ O)						
Suspension	33	86.6	60.7	70.9	74.1	p = 0.0002
Non-suspension	12	82.3	48.3	56.3	48.8	

n.s. not significant

ANOVA (repeated-measure design).

Table 2. Suspension status after radical retropubic prostatectomy

	No. pts.	Mean distance (cm) ^a	
		Before catheter removal	3 months after the surgery
Suspension	33	0.9	0.9
No-suspension	12	1.9	1.8
Significance ^b		p < 0.001	p < 0.001

Distance to anastomotic level from the upper line of the pubic symphysis on upright cystourethrography.

Mann Whitney U-test.

Conclusions

These observations suggest that fixation of urethral hypermobility by the suspension technique results in rapid recovery of urinary continence after radical retropubic prostatectomy.