

IS THERE ANY PREDICTIVE URODYNAMIC PARAMETER FOR URINARY INCONTINENCE AFTER RADICAL RETROPUBIC PROSTATECTOMY?

Hypothesis / aims of study

The percentage of incontinence after radical prostatectomy varies from 3 to 20% in the literature. Urodynamic examination before and after surgery can help to obtain information about the factors that affect continence. The aims of the study were to look for a difference in the urodynamic parameters between the continent and incontinent patients and to look for a predictive factor of incontinence after surgery.

Study design, materials and methods

Since 1/1999 to 12/2004 Urodynamic testing was done in 78 patients before surgery and at 1 and 3 month follow-up. The incontinence patients were identified using the Stamey score. Bladder sensation, maximum cystometric bladder capacity, compliance and detrusor over activity, urethral functional profile length and the maximal urethral closure pressure (MUCP) at rest and during voluntary contraction of external sphincter were evaluated. The statistic evaluation was done by means of T test and Linear Regression ($p < 0.05$) for comparison of results obtained pre and post surgery.

Result

10 out of 78 (12%) patients presented any degree of incontinent after 3 months. The only statistically significant difference between continent and incontinent patients was in the measurement of MUCP at rest (tab 1). The other parameters, including the urethral functional length and the detrusor over activity, did not show any statistical significance. The only statistically significant predictive factors were the MUCP at rest and during strain at base line, at 1 and 3 months after surgery (Tab 2), therefore the median of MPCU before surgery (80 cmH₂O) could be used as a cut-off for patient with an high risk of incontinence after surgery. All the incontinent patients 3 months post op. showed MUCP lower than 80 cm H₂O, while in the continent group the majority of the patients had higher values.

Tab 1. Difference between continent and incontinent patients.

Parameters	Incontinent: Mean	Continent: Mean	T value	P
MUCP (cm H ₂ O) Before surgery	57.3	97.5	-3.34	0,0013
MUCP (cm H ₂ O) 1 month	43.8	71.6	-2.53	0,0138
MUCP (cm H ₂ O) 3 months	51	81	-2.39	0,0193

Tab 2. Predictive factors for Urinary incontinence

	MUCP before surgery	DMUCP before surgery	MUCP 1 month	DMUCP 1 month
p value	0.031	0.04	0.34	0.28

Interpretation of results

After radical prostatectomy significant changes in urethral sphincter measurement are noted. Urethral closure pressure before the surgery seems to be an interesting parameter in the patients counselling and can be probably used as a positive predictive factor for post operative incontinence. The MUCP is a positive predictive factor, that can identify patients with greater chance to become continent after the surgery. In the patients with low pre operative MUCP particular care should be paid in the preparation of the prostate apex during the radical retropubic prostatectomy.

Concluding message

Radical prostatectomy causes changes in urodynamic parameters as MUCP that can be used as predictive factors for post operative incontinence.

