

URINARY STRAINING CONTRIBUTES TO INGUINAL HERNIA AFTER RADICAL RETROPUBIC PROSTATECTOMY

Hypothesis / aims of study

To verify whether abdominal pressure during urination represents an important factor in the postoperative development of inguinal hernia after radical prostatectomy, the relationship between urinary straining and postoperative inguinal hernia was investigated.

Study design, materials and methods

Participants comprised 228 patients who underwent radical retropubic prostatectomy without prophylaxis for inguinal herniation between 2002 and 2007. Development of inguinal hernia was assessed from clinical records. Straining was rated on a 6-point scale (straining score) according to frequency of straining using answers to Question 6 of the International Prostate System Score questionnaire preoperatively and at 1, 3, 6, 12, 18, 24, and 36 months after prostatectomy. Straining scores were compared between patients with and without postoperative inguinal hernia. Multivariate analysis was performed to identify parameters associated with inguinal hernia development after prostatectomy. Associations between inguinal hernia development and frequency of postoperative urinary straining were also estimated.

Results

Straining score in both groups was significantly increased at 1 month after radical retropubic prostatectomy. This increase was significantly greater in the postoperative inguinal hernia group ($P<0.05$). Throughout the observation period, postoperative straining scores were higher in the group with postoperative inguinal hernia than in the group without. On multivariate analysis, postoperative urinary straining and previous hernia repair represented significant risk factors for postoperative inguinal hernia. The proportion of patients without inguinal hernia decreased significantly with increasing frequency of postoperative urinary straining.

Table Uni- and multivariate analyses of clinical parameters for postoperative inguinal hernia

Parameters	Univariate		Multivariate	
	HR (95%CI)	<i>P</i>	HR (95%CI)	<i>P</i>
Age (years)	1.016 (0.971-1.066)	0.497	1.006 (0.930-0.993)	0.874
BMI (kg/m ²)	0.793 (0.685-0.916)	0.0014 *	0.859 (0.708-1.040)	0.215
Operative time (min)	1.002 (0.998-1.006)	0.352	1.000 (0.989-1.009)	0.933
Blood loss (ml)	1.000 (0.999-1.001)	0.964	1.000 (0.999-1.000)	0.500
Weight of excised prostate (g)	1.004 (0.986-1.020)	0.652	1.005 (0.970-1.036)	0.739
Previous inguinal hernia repair	6.537 (2.645-13.978)	0.0003 *	5.008 (1.049-18.697)	0.044 *
Postoperative urethral stricture	1.503 (0.245-4.902)	0.600	4.033 (0.396-21.258)	0.206
Postoperative urinary straining				
at 1 month after RRP (n=148)	2.762 (1.158-7.618)	0.021 *	3.132 (1.053-11.420)	0.040 *
at 3 months after RRP (n=162)	1.257 (0.594-2.659)	0.546		
at 6 months after RRP (n=175)	2.076 (0.994-4.541)	0.052		
at 12 months after RRP (n=184)	2.502 (1.228-5.303)	0.011 *		
at 18 months after RRP (n=185)	2.084 (1.071-4.143)	0.031 *		
at 24 months after RRP (n=183)	2.194 (1.092-4.548)	0.027 *		
at 36 months after RRP (n=151)	1.890 (0.831-4.430)	0.128		

BMI, body mass index; RRP, radical retropubic prostatectomy.

* Significant difference, $P<0.05$

Concluding message

Urinary straining is associated with inguinal hernia development after radical retropubic prostatectomy.

Disclosures

Funding: NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** this study is retrospective study **Helsinki:** Yes
Informed Consent: Yes