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ETIOLOGY OF POST-PROSTATECTOMY INCONTINENCE: CORRELATION OF SYMPTOMS WITH URODYNAMIC FINDINGS

Aim of study. The prevention and treatment of post-prostatectomy still remains as a challenge in urology. Herein, we intend to identify predisposing factors for incontinence, by comparison of 160 incontinent patients submitted to three different types of surgery (Trans urethral Resection of Prostate, Open Prostatectomy and Radical Prostatectomy).

Material and Method. From August, 1980 to February 2000, urodynamic studies and clinical interviews were accomplished in 160 incontinent patients. Retrospective evaluation was done in 146 patients, after exclusion of those with previous pelvic irradiation or bladder cancer. There were 81 incontinent patients after transurethral resection of prostate (TURP), 44 after open prostatectomy (OP), and 21 after radical prostatectomy (RP). The mean age by the time of surgery was 69 years old, with no statistical difference between the three groups. In the same way, no difference was attained in the interval time from surgery to the urodynamic study (median of 13 months). All patients were looking for treatment, complaining of urinary leakage. Urodynamic studies were done by a multichannel polygraph using a 7 Fr Jonas-Tanagho membrane catheter. The items analyzed comprised free flow rate, residual urine, bladder sensations during filling, presence of detrusor contractions, bladder compliance, pressure - flow study and urethral pressure profile. These findings were compared one to another and to the patient's complains and the results submitted to non-parametric statistical analysis.

Results. The functional urethral length was the unique reliable finding for analysis from the urethral pressure profile, and smaller in the RP group ($p=0.02$). Intrinsic sphincter deficiency with leaking under stress was equally the main cause of incontinence in the three groups.

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Bladder dysfunction (BD), including detrusor hyperactivity and decreased compliance, was also equally distributed in all groups (TABLE 1). Analysis of the presence of bladder dysfunction only by the age of patients, presented a progressive distribution proportional to the aging, not related to the type of surgery ($p=0.01$) (TABLE 2). Comparison of subjective and objective findings of incontinence, revealed 107 with sphincter deficiency out of 131 men who complained of total stress incontinence, giving to this subjective parameter a positive predictive value (PPV) of 81%. From those 13 without this complaining, only 1 presented sphincter deficiency, with a PPN of 92%. The urge incontinence at bladder hyperactivity had a PPV of 92% and a PPN of 41%.

Conclusion Intrinsic sphincter deficiency is the main cause of incontinence equally after the three types of surgery. Bladder dysfunction is present in a large number of patients, increasing the incidence according to the age of patients. Therefore, patients over 70 years old can be considered at risk to this problem. Symptoms of stress incontinence or urge incontinence can be reliable evidences of the urodynamic problems.

TABLE 1- Comparison of urodynamic findings after TURP, OP and RP

	TURP	OP	RP	
Sphincter deficiency	30 (37%)	18 (41%)	8 (38%)	$p = 0,91$
Sphincter deficiency + hyperactivity	8 (10%)	9 (20%)	3 (14%)	$p = 0,25$
Sphincter deficiency Low compliance	15 (18%)	8 (18%)	7 (33%)	$p = 0,29$
Obstruction	1 (1%)	1 (2%)	-	$p = 0,75$
Hyperactivity	13 (16%)	6 (13%)	2 (9%)	$p = 0,73$
Low compliance	11 (13%)	2 (4%)	-	$p = 0,07$
Normal	2 (2%)	-	1 (4%)	$p = 0,78$
Total	81	44	21	

TABLE 2- Bladder dysfunction (BD) related to patients age

	> 70 years	60-70 years	<60 years	TOTAL
BD	44 (65%)	30 (45%)	4 (30%)	78
Total of patients	67	66	13	146