

Risk Factors For Acute Urinary Retention After Prostate Brachytherapy

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PURPOSE: To evaluate the risk factors for postoperative urinary retention after transperineal permanent interstitial prostate brachytherapy (PB).

METHODS AND MATERIALS: 2,527 patients were treated with PB between May 2001 and April 2005 at a single out-patient institution. 189/2527 (7.5%) of these patients were discharged with indwelling foley catheter (FC) due to a failed voiding trial in the recovery room. The last one hundred consecutive patients who underwent PB and were discharged home without FC (Group 1) was compared to the last one hundred consecutive patients who were discharged home with FC (Group 2). All 200 patients were stage T1/T2, and treated with ¹²⁵Iodine monotherapy. 13% of patients in Group 1 and 20% of patients in Group 2 received neoadjuvant hormonal manipulation (HM). Exclusion criteria were neoadjuvant external beam radiation (EBRT) or prior transurethral resection of prostate (TURP). Multivariate analysis was performed using the following factors: age, use of HM, International Prostate Symptom Score (IPSS) and prostate volume.

RESULTS: Pretreatment prostate volume greater than 51.5 cm³ was the only significant predictor (p=.000) for acute urinary retention requiring discharge home with FC. Multivariate analysis demonstrated that neither IPSS score (p= .170), patient age (p= .468) nor neoadjuvant HM (p= .736) were significant risk factors for acute urinary retention. Of the patients discharged with FC, 86% had FC for less than 1 week, 93% had FC for less than 2 weeks, 2 patients had FC for greater than 6 months and NO patient had FC for greater than 9 months.

CONCLUSION: Patients with pretreatment prostate volume greater than 51.5 cm³ have significant risk of developing postoperative urinary retention requiring discharge with an indwelling FC. Most PB patients are treated on an outpatient basis and this data serves as an important tool in counseling patients on their postoperative care.

Group 1: Discharged Without Foley Catheter (n=100)		Group 2: Discharged With Foley Catheter (n=100)	
Pre-treatment PSA (ng/ml)		Pre-treatment PSA (ng/ml)	
mean	7.98	mean	9.4
median	7.21	median	8.1
std. Deviation	4.84	std. Deviation	5.5
IPSS Score		IPSS Score	
mean	8.83	mean	8.3
median	6	median	7
std. Deviation	6.5	std. Deviation	5.5
range	0 to 31	range	0 to 22
Age at Implant (years)		Age at Implant (years)	
mean	67.9	mean	68.8
median	69	median	69.9
std. Deviation	6.6	std. Deviation	7.2
range	52.2 to 80.0	range	49.6 to 84.4
Prostate Volume (cm³)		Prostate Volume (cm³)	
mean	40.4	mean	51.5
median	39.1	median	48
std. Deviation	12.1	std. Deviation	15
range	17.3 to 79.4	range	17 to 87.1
Hormonal Manipulation (HM)		Hormonal Manipulation (HM)	
# Patients	13 (13%)	# Patients	20 (20%)
Duration of HM (months)		Duration of HM (months)	
mean	3.6	mean	4.4
median	3	median	4
range	2 to 6	range	1 to 9