

Is Previous Transurethral Resection of the Prostate a Contraindication to Prostate Brachytherapy?

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Purpose: To evaluate the incidence of urinary incontinence and urinary bother after prostate brachytherapy (PB) in patients who have had prior transurethral resection of the prostate (TURP).

Methods and Materials: Between October 1997 and August 2001, 171 patients (1997 AJCC Stage T1a-T2b, Gleason Grade ≤ 7) who underwent prior TURP received PB as monotherapy at a single institution. All patients were mailed the University of California-Los Angeles Prostate Cancer Index (UCLA PCI) and American Urologic Association (AUA) symptom score sheet to assess their urinary function. UCLA PCI quality of life scale ranges from 0-100 with higher scores representing better outcomes. AUA symptom scale ranges from 0-35 with lower scores representing better outcomes. 102 surveys were returned for an overall response rate of 60%. 2 respondents did not complete at least 80% of the UCLA PCI and were therefore excluded. Time of TURP ranged from 2 to 300 months (median 6.5 yrs, mean 7.7 yrs) before implant. 8 patients had more than one TURP prior to implant. Mean patient age was 74 ± 5.2 yrs while mean target volume was 37.53 ± 14.4 cm. Mean pre-treatment AUA score was 7.75 ± 5.9 . Follow-up ranged from 6.1 to 50.9 months (median 25 months). 59% received Amersham 6711 ^{125}I implant (144 Gy TG-43) while 41% received Theragenics 200 ^{103}Pd (132 Gy NIST 99). 31% had neoadjuvant Total Androgen Blockade (TAB) for downsizing. Brachytherapy was performed using a 3-D volume reconstructed preplanned/preloaded needle technique. Special care was taken in all cases to identify the urethral defect and avoid 150% of the prescribed matched peripheral dose to the TURP defect.

Results: UCLA PCI urinary function and bother scores for all 100 patients were analyzed (Table 1). The mean urinary function score and bother score for the entire study group was 83.5 ± 19.5 and 82.5 ± 23.7 , respectively. Multivariate analysis of variance was performed using the following factors: age, use of TAB, total activity, isotope, pre-treatment AUA symptom score and time to follow-up. The pre-treatment AUA score was the only variable that showed a significant difference ($p = .001$) in the urinary function or bother scores.

Conclusion: With accurate ultrasound identification of the urethral defect and careful planning, brachytherapy can be performed in patients who have had prior TURP with resultant low impact on urinary function and bother scores. The majority of patients experienced little or no problem with urination. Specifically, only 3% of patients reported a moderate or big problem with dripping urine and only 7% reported a moderate or big problem in urinary function bother (Table 1).

Finally, in our experience, TURP patients had less urinary function symptoms and bother symptoms when presenting with lower AUA score.

TABLE 1. UCLA Prostate Cancer Index Urinary Function and Bother

	Total No. Pts (%)
How often leaked urine:	
Not at all	51 (51)
Less than once a week	17 (17)
About once a week	10 (10)
Every day	22 (22)
Best description of urinary control:	
Total Control	54 (54)
Occasional dribbling	45 (45)
Frequent dribbling	1 (1)
No control whatsoever	0 (0)
Pads or adult diapers used daily to control leakage:	
Not Needed	77 (77)
No Pads	14 (14)
1-2 pads per day	9 (9)
3 or more pads per day	0 (0)
How big a problem is dripping urine or wetting pants:	
No problem	57 (58)
Very small problem	23 (23)
Small problem	16 (16)
Moderate problem	2 (2)
Big problem	1 (1)
Missing response	1
How big a problem is urine leakage interfering with sexual activity:	
No problem	78 (91)
Very small problem	5 (6)
Small problem	1 (1)
Moderate problem	0 (0)
Big problem	2 (2)
Missing response	14
Overall urinary function bother:	
No problem	55 (55)
Very small problem	28 (28)
Small problem	10 (10)
Moderate problem	6 (6)
Big Problem	1 (1)

Percentage of each item may not equal 100% due to rounding. For items with missing responses, valid percentage is used.