

## **Prostate Brachytherapy as Monotherapy for Gleason 3+4 Prostate Cancer**

**Brian J. Moran, MD and Michelle H. Braccioforte, BS**

*Chicago Prostate Cancer Center, Westmont IL*

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### **Objective**

To investigate the efficacy of treating Gleason 3+4 prostate cancer using permanent interstitial prostate brachytherapy (PB) as monotherapy.

### **Methods**

78 patients with clinical stage T1-T2 tumors, Gleason grade 3+4=7 and mean pretreatment PSA of  $9.0 \pm 6.4$  ng/ml (median 7.16 ng/ml, range 1.5-48.2) and a minimum follow-up of 3 years were treated with PB as monotherapy at a single institution between October 1997 and June 2001. Median follow-up for the whole cohort was 6.25 years (range 5-8.25 years). Mean AUA symptom scores was  $6.17 \pm 5.2$  (median 5, range 0-23) with 14/78 (18%) patients having had a prior trans-urethral resection of prostate. 55 (70.5%) were treated with  $^{125}\text{I}$  and 23 (29.5%) received  $^{103}\text{Pd}$  implants. Mean patient age was  $71.4 \pm 6.6$  years (range 52.4 to 83.9). Sequential serum prostate specific antigen (PSA) levels and demographics were recorded and analyzed. Biochemical failure was defined according to the ASTRO definition. Cumulative survival functions were calculated by the Kaplan- Meier method.

## Results

63/78 men (80.8%) experienced biochemical disease free survival (BDFS). 8/15 patients with biochemical failure underwent subsequent institution of secondary therapy. No patients died of prostate cancer. Median time to biochemical failure was 21 months (3-72). The Kaplan-Meier estimate of BDFS in this cohort is at 76% at 6 years.

## Discussion

Permanent interstitial PB monotherapy may be a reasonable option for some men with Gleason 3+4 tumors with 5 year BDFS similar to radical prostatectomy.

