

## 160 Young Men have Equivalent Biochemical Outcomes Compared to Older Men After Treatment With Prostate Brachytherapy

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**Purpose/Objective(s):** Young age is commonly viewed as a negative prognostic factor in prostate cancer. Data supporting this perception is scant. Our goal was to ascertain 5-year biochemical outcomes in young men treated with low-dose rate prostate brachytherapy.

**Materials/Methods:** 1763 patients with clinically localized prostate cancer were treated with low-dose rate brachytherapy between 1990 to 2005 and had  $\geq 2$  years of follow-up. Patients were stratified into three groups based on age:  $\leq 60$  ( $n = 400$ ), 61–75 ( $n = 1,142$ ), and  $> 75$  ( $n = 221$ ). Median follow-up for patients  $\leq 60$ , 61–75 and  $> 75$  was 59 months (range 24–167), 62 months (range 24–181) and 54 months (range 24–197), respectively. Biochemical failure was defined by the ASTRO consensus definition. Univariate and multivariate Cox regression analyses were used to determine if any variable was predictive of 5-year bFFF. Variables included risk group (low vs. intermediate vs. high), Gleason score ( $\leq 6$  vs. 7 vs.  $\geq 8$ ), pretreatment prostate-specific antigen (PSA) ( $< 10$  vs. 10–20 vs.  $> 20$ ), treatment type (implant  $\pm$  hormones vs. implant and EBRT vs. trimodality), stage ( $\leq T2a$  vs. T2b vs.  $\geq T2c$ ), treatment era (1990–1997 vs. 1998–2005), use of hormonal therapy and biologically effective dose (BED  $\leq 150$  vs.  $> 150$ ). A two-sided  $p$ -value  $< 0.05$  was considered significant. Group comparisons were performed by Chi-square analysis.

**Results:** For the entire group, the actuarial 5-year bFFF was 90%. On univariate analysis, patients  $\leq 60$  years old demonstrated improved 5-year biochemical control rates at 96% vs. patients in the 61–75 and  $> 75$  year old age groups at 89% and 88%, respectively ( $p = 0.001$ ). Compared to patients  $> 60$  years old, a significantly higher proportion of younger patients presented with low risk disease (57.3% vs 39.6%,  $p < .001$ ), were treated after 1997 (72.3% vs 60.1%,  $p < .001$ ), received hormonal therapy (60.2% vs. 57.5%,  $p = 0.001$ ) and BED ( $92.5\%$  vs  $85.2\%$ ,  $p < .001$ ). On multivariate analysis of the entire group, treatment era ( $p = -0.009$ ) and BED ( $p = 0.001$ ) were significant in predicting 5-year biochemical control, but age was not ( $p = 0.2$ ).

**Conclusions:** Young men achieve excellent 5-year biochemical control rates comparable to men  $> 60$  years old after prostate brachytherapy. Young age should not be a deterrent when considering brachytherapy as a primary treatment option.

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