

"Ten-Year Disease Free Survival Rate Calculated With PSA Cutpoint 0.2 ng/ml In Men After Brachytherapy For Prostate Cancer"

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INTRODUCTION AND OBJECTIVES: Recent reports have documented that it is misleading to compare irradiation disease free survival (DFS) rates calculated by the American Society of Therapeutic Radiation Oncology definition with radical prostatectomy DFS rates calculated by an undetectable prostate specific antigen (PSA). Instead, the same definition of disease freedom should be used to calculate results after surgery or irradiation for localized prostate cancer and PSA cutpoint 0.2 ng/ml has been recommended as the standard. The DFS rates of this brachytherapy program calculated by this standard are documented for men treated five or more years ago.

METHODS: From 1992-1997, 1,011 consecutive men with clinical stage T1-T2NxMo prostate cancer were treated by simultaneous irradiation; transperineal I-125 prostate seed implant followed by external beam irradiation. None received neoadjuvant hormones. The median patient age at implant was 66 (range 40-88), median PSA was 7.2 ng/ml (range 0.3-88 ng/ml), 26% had biopsy Gleason score 7, and median followup is 6 years (range 5-10). DFS rates were calculated by the Kaplan Meier method with disease freedom defined by PSA cutpoint 0.2 ng/ml.

RESULTS OBTAINED: Of the 1,001 men, 149 (15%) recurred. The overall five and ten-year DFS rate is 86% and 83%, respectively. Men were subdivided according to risk factors: PSA >10.0 ng/ml, Gleason score 7, and stage T2b, T2c. Low (no factor), intermediate (one factor) and high (two factors) risk men had a 94%, 82% and 61% ten-year DFS rate, respectively ($p=0.0001$). According to pretreatment PSA 4.0 ng/ml, 4.1-10.0 mg/ml, 10.01-20.0 ng/ml and >20.0 ng/ml, the ten-year disease free survival rate is 93%, 89%, 68% and 62%, respectively ($p=0.0001$).

CONCLUSION: To be fair when comparing irradiation results with radical prostatectomy, a standard definition of disease freedom must be used and, since PSA falls slowly after irradiation, men should have minimum five-year followup to allow time for recurrence and also time to achieve PSA 0.2 ng/ml (99% of men who achieve PSA 0.2 ng/ml after irradiation do so by five-year followup). These 10-year DFS rates can be reasonably compared with radical prostatectomy results from the PSA era.