

The Role of Salvage Prostate Brachytherapy for Patients Failing External Beam Radiation Therapy

Dean J. Conterato, MD, Brian J. Moran, MD, Kenneth Janson, MD and William Hartsell, MD

Chicago Prostate Cancer Center, Westmont, IL, USA

PURPOSE: To present our observations as to the efficacy and complications associated with salvage brachytherapy using permanent I₁₂₅/Pd₁₀₃ seed implants in patients that failed conventional dose external beam radiation (EBXRT) for prostate cancer.

MATERIALS AND METHODS: 27 patients that were previously treated for T1-T2 prostate cancer with EBXRT (mean dose 6750cGy) and then subsequently developed evidence of recurrence by increasing PSA (range 1.4 ng/ml –135 ng/ml). Prior to salvage implant (SI), 81.5% (21/26) of patients underwent biopsy to confirm recurrence. Metastatic analyses were found to be without evidence of metastases. Implants were performed using either I₁₂₅ or Pd₁₀₃ under ultrasound and fluoroscopic guidance. 108Gy (I₁₂₅) or 90Gy (Pd₁₀₃) was prescribed to the target volume. Special care was taken to minimize dose to the urethra and rectum. Follow-up was performed at our center and included regular PSA testing and digital rectal exam every 3 months. Patients were interviewed and asked to fill out questionnaires regarding post implant symptoms. Failure was defined as 3 consecutive rises in PSA or evidence of clinical progression on DRE.

RESULTS: The median follow-up was 20 months (range 3-33 months) for the 27 patients undergoing SI. One patient was lost to follow-up at 3 months while still bNED and has been excluded from the survival calculation. 2 patients died at 3 and 4 months after SI from cardiovascular related disease and have been included in the group of failure patients. bNed survival was 58% (15/26). Incontinence of any severity occurred in 29% (8/27) of patients. 5/27 (18.5%) had stress incontinence and 3/27 (11%) had total incontinence. 2 of 3 patients developing total incontinence underwent transurethral resection of the prostate (TURP) after implant due to obstructive symptoms and subsequently developed urinary incontinence. 7% (2/27) had rectal symptoms of bleeding and increased frequency of bowel movements (1 had unresolved bleeding since completing the external radiation). Nocturia was increased and averaged 2.3 times per night.

CONCLUSIONS: SI can be performed safely on patients who have failed previous EBXRT with reasonable risks. 2/3 of patients may be salvaged with SI. We recommend that patients should be evaluated by a urologist for evidence of preexisting prostate obstruction, retention or rectal damage. If there are minimal preexisting problems, the risk of subsequently developing complications from SI appears to be low. Longer term follow-up will define durability of bNED.