Treatment outcome with adjuvant and salvage irradiation after radical prostatectomy for prostate cancer.

Vicini FA, Ziaja EL, Kestin LL, Brabbins DS, Stromberg JS, Gonzalez JA, Martinez AA.
Department of Radiation Oncology, William Beaumont Hospital, Royal Oak, Michigan 48073, USA.

Abstract

OBJECTIVES: To determine the factors associated with outcome by reviewing our institution's experience treating patients with external beam radiation therapy (RT) after radical prostatectomy.

METHODS: Sixty-one patients received RT to the prostatic fossa after radical prostatectomy for prostate cancer (median dose 59.4 Gy). Thirty-eight patients received adjuvant RT within 6 months of surgery for adverse pathologic findings only. Therapeutic RT was administered to 23 patients either for a persistently elevated postoperative prostate-specific antigen (PSA) level (n = 2), a rising PSA level more than 6 months after surgery (n = 9), or a biopsy-proven local recurrence (n = 12). Preoperative and preradiation PSA values, Gleason score, pathologic findings, patient age, total RT dose, and indication for RT were analyzed for their impact on biochemical control. The median follow-up was 48 months.

RESULTS: Patients treated with adjuvant RT achieved 3 and 5-year biochemical control rates of 84% and 67%, respectively. Multiple clinical, pathologic, and treatment-related factors were analyzed for an association with biochemical control. No variable was associated with 5-year outcome. The 5-year actuarial rate of biochemical control for patients treated with therapeutic RT was 16%. Multiple clinical, pathologic, and treatment-related factors were analyzed for an association with biochemical control. Only a pre-RT PSA level of 2 ng/mL or less was associated with an improved rate of biochemical control at 3 years (80% versus 27%, P = 0.001). However, at 5 years, this difference was not statistically significant. A separate analysis was performed to determine the prognostic factors associated with outcome for the entire group of patients. Only the indication for RT (adjuvant versus therapeutic) was associated with 5-year outcome. Patients treated with adjuvant RT had a statistically significant improvement in 5-year actuarial rates of biochemical control (67% versus 16%, P <0.001) and disease-free survival (66% versus 46%, P = 0.037) but not in overall survival. There were no statistically significant differences between patient groups with respect to age, preoperative PSA, Gleason score, pathologic T stage, median follow-up, and total RT dose.

CONCLUSIONS: At our institution, patients treated with adjuvant RT after prostatectomy for adverse pathologic findings achieved excellent rates of biochemical control that were significantly better than that of similar patients treated therapeutically for persistent or rising PSA or clinical local recurrence.

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