Comparison of external beam radiotherapy versus permanent seed brachytherapy as monotherapy for intermediate-risk prostate cancer - a single center Canadian experience.


Abstract

INTRODUCTION: We tested different classification systems in order to separate intermediate-risk prostate cancers into prognostic groups. We then examined which groups were most suited for either prostate seed brachytherapy (PB) or external beam radiotherapy (EBRT).

MATERIALS AND METHODS: We selected patients with D'Amico intermediate-risk prostate cancer who were treated exclusively with either PB or EBRT. Patients were excluded if they had received androgen deprivation therapy in combination with EBRT or a follow up of < 30 months without recurrence. The Kaplan-Meier method was used to compare groups.

RESULTS: Our sample consisted of 475 patients treated from July 2002-September 2013. Median follow up for patients without biochemical failure (BF) was 56 months (interquartile range 44-78); 222 patients (47%) were treated with PB exclusively (D90 interquartile range 145-176 Gy) and 253 (53%) with EBRT exclusively (dose interquartile range 76-80 Gy). The rate of BF was significantly lower in patients treated with PB (5.4%) than in patients treated with EBRT (14.2%) (p = 0.036, log-rank test). Upon univariate analysis, significant predictors of BF included the number of unfavorable intermediate-risk factors (0, 1, 2, 3) (p = 0.024) as well as the Cancer of the Prostate Risk Assessment (CAPRA) score (p = 0.002). After adjusting for the type of treatment, only the CAPRA score remained predictive (p = 0.025). For patients with a CAPRA score of 0-2, those with PB fared better than those treated with EBRT (p = 0.042). This difference disappeared in patients with a CAPRA score of 3-5 (p = 0.5).

CONCLUSIONS: Using our current selection criteria for monotherapy, we found that PB or EBRT as monotherapy are equally effective treatment options for intermediate-risk prostate cancer.

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