Does family history of prostate cancer affect outcomes following radiotherapy?

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Abstract

OBJECTIVE: To examine family history (FH) as a prognostic factor following radiotherapy (RT).

MATERIALS AND METHODS: Between 1989 and 2007, 1711 men with clinically localized prostate cancer and complete family history who had received RT (median RT dose=74Gy) without androgen deprivation therapy were analyzed. FH was defined as any prostate cancer in a first degree relative. For the biochemical failure (BF) outcome, this sample size has 85% power to detect a hazard ratio of 1.56 for positive versus negative FH.

RESULTS: With a median follow-up of 71 months, there was no significant difference in the distribution of Gleason score (GS) or prostate specific antigen (PSA) based on FH. A positive FH was not an independent predictor of BF, distant metastasis (DM), prostate cancer specific mortality (PCSM), or overall mortality (OM) in Cox proportional multivariable analysis. On further analysis in a Cox proportional multivariable analysis, men with two or more first degree relatives with prostate cancer had a significantly higher likelihood of BF and DM than those with no FH, although there was no difference in PCSM or OM. Men with a positive FH (23%) were more likely to be younger, have a lower PSA, and non-palpable disease. There was no interaction between a positive FH and neither race nor treatment era (pre-PSA vs. PSA era).

CONCLUSIONS: A positive FH is not a prognostic factor following RT and should not alter standard treatment recommendations. Patients with two or more first degree relatives with prostate cancer had a higher likelihood of BF and DM, but there was no effect on survival. There was no interaction between a positive FH and African American race or treatment era. A positive FH was however, associated with more favorable PSA values and T-stage that may be the result of earlier screening.

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