

1069 The Influence of Age as a Predictor of Outcome in Prostate Cancer Patients Treated on RTOG Trials

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Purpose/Objective(s): Age is controversial as a predictor of prostate cancer outcome, with some investigators feeling that younger age portends a worse outcome, while others feel the opposite. In addition to the expected influence of age at diagnosis upon overall survival, we hypothesized that age would impact local failure and distant metastases in patients treated with radiation therapy.

Materials/Methods: Analyzable patients treated on five RTOG prostate trials (7506, 7706, 8531, 8610 and 9202) were included in this study. Overall survival was defined as death by any cause; local failure was defined as clinical evidence of local recurrence by palpation or imaging methods, or stable disease beyond 18 months, and distant metastases were defined by clinical or imaging evidence of distant disease. The Kaplan-Meier method is used to estimate the overall survival and the log-rank test is used to test significance; and the cumulative incidence method is used to estimate the local failure rate and distant metastasis rate and Gray's test is used to test significance. The outcomes were modeled using multivariate Cox proportional hazards regression with the following covariates: Clinical T-stage, Gleason score, hormone therapy prescribed in protocol, study, and pre-enrollment surgery, and study number.

Results: 3939 patients were available for analysis, with mean follow-up of 9.1 years for patients under 70 and 7.7 years for patients above age 70. On multivariate analysis, age greater than 70 was associated with a hazard ratio of 1.49 for worse overall survival ($p < .0001$). There was no significant difference in local control between patients greater than 70 and patients less than 70 ($p = .92$). Patients less than 70 were at a higher risk of distant metastases with a hazard ratio of 1.24 (p -value = 0.0006).

Conclusions: There is no difference in local control between patients greater than 70 and patients less than 70 in a series of RTOG trials. Patients younger than 70 have a higher risk of distant metastases, even when controlling for known prognostic factors such as T stage, Gleason score and hormonal use.

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