Abstract

PSA Doubling Time Predicts for the Development of Distant Metastases for Patients Who Fail 3DCRT Or IMRT Using the Phoenix Definition.

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PSA Doubling Time (PSADT) is commonly used as an indication for salvage androgen deprivation therapy (ADT) for PSA failure following RT. Previously, we had shown that PSADT of <12 months is an important predictor of distant metastasis following 3DCRT using the ASTRO definition of BF. We sought to determine if this approach is still valid using the Phoenix definition.

METHODS: Eligible patients included 432 men with T1-3N0M0 prostate cancer who demonstrated PSA failure after completing definitive 3DCRT or IMRT from 1989-2005. Endpoints included freedom from distant metastasis (FDM), cause-specific survival (CSS) and overall survival (OS). PSADT was stratified by 0-6, 6-12, 12-18, 18-24, and >24 months. The median follow-up was 95 months (6-207 months).

RESULTS: The 7 year FDM, CSS, and OS rates for the entire group were 73%, 77% and 52%, respectively. 7 year FDM was 50% for PSADT <6 months vs. 83% for PSADT >6 months (p=0.0001). 7 year CSS was 61% for PSADT <6 and 85% for PSADT >6 (p=0.0001). 7 year OS was 47% for PSADT <6 and 53% for PSADT >6 (p=0.04). The proportion of men with BF receiving salvage ADT with a PSADT <6 months was 59%, 6-12 was 45%, 12-18 was 42%, 18-24 was 36%, >24 was 28%. ADT was associated with improved 7 year CSS (68% vs. 46%, p=0.015). Of the 314 men with PSADT >6 months, 124 received ADT and 190 were observed. With a median follow-up of 38 months from BF, there was no demonstrable benefit to ADT in the 7 year CSS (87% vs. 79%, respectively; p=0.758). Independent predictors of FDM were PSADT (p<0.0001), GS (p=0.011), and the use of initial ADT (p=0.005).

CONCLUSION: PSADT remains a significant predictor of clinical failure and CSS for men treated with 3DCRT or IMRT who fail according to the Phoenix definition. Immediate use of ADT in patients with PSADT <6 months is significantly associated with improved CSS, although the benefit is less apparent in patients with longer PSADT. These results further refine the role of PSADT in predicting which patients may benefit from salvage ADT and those who may be observed expectantly.