Assessment of the American Joint Committee on Cancer 7th Edition Staging for Localised Prostate Cancer in Asia Treated with External Beam Radiotherapy

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Abstract

Introduction: Most international clinical practice guidelines for prostate cancer (PCa) are driven by data derived in a Western setting. However, tumour biology and clinical disease progression are likely to differ in the Asian population. We compare the performance of the revised American Joint Committee on Cancer (AJCC) prognostic groups with the commonly used D’Amico Risk Classification and conventional predictors for PCa, in a large cohort of Asian patients. Materials and Methods: We retrospectively reviewed data for 404 consecutive Singaporean patients receiving definitive radiotherapy at our centre between December 1996 and October 2006. The primary outcome was biochemical relapse-free survival (BRFS), defined using the Phoenix definition. The secondary outcome was overall survival (OS). Prognostic risk groups were defined using AJCC 7th edition (AJCC7) and 6th edition (AJCC6). Univariate analysis (UVA) and multivariate analysis (MVA) were performed for the following putative risk factors: age, Gleason score, prognostic grouping, tumour classification, radiation delivery technique, radiotherapy dose, hormonal therapy and initial PSA value. Results: For the cohort, median age was 69 years. Median follow-up was 66.3 months. Five-year BRFS rate was 84.3% with 71 biochemical relapses and 5-year OS rate was 89.1% with 54 deaths. The concordance-indices for BRFS prediction were 0.588, 0.550 and 0.567 for AJCC7, AJCC6 and D’Amico respectively. Initial PSA, T-stage and AJCC7 were prognostic for BRFS on UVA. T-stage ≥3 and D’Amico were significant prognostic factors for BRFS on MVA. Conclusion: In our local, predominantly Chinese population, neither AJCC6 nor AJCC7 demonstrated a high predictive accuracy for BRFS although AJCC7 has a slightly better predictive ability than AJCC6.

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