Contemporary evaluation of the D'amico risk classification of prostate cancer.

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Abstract

OBJECTIVES: In 1998, D'Amico et al. suggested a model stratifying patients with prostate cancer into those with low, intermediate, or high-risk of biochemical recurrence after surgery according to the clinical TNM stage, biopsy Gleason score, and preoperative prostate-specific antigen level. We studied the performance and clinical relevance of this classification system over time, in the context of the stage migration seen in the contemporary era, using data from a high-volume, tertiary referral center.

METHOD: From 1984 to 2005, 6652 men underwent radical prostatectomy at our institution for clinically localized prostate cancer (clinical Stage T1c-T2c) with follow-up information available and no neoadjuvant or adjuvant therapy before biochemical recurrence. Biochemical recurrence-free survival (BRFS) was estimated using the Kaplan-Meier method, and the BRFS rates between the D'Amico risk groups and by era were compared using the log-rank statistic. Finally, the distribution of patients among the three groups was compared over time.

RESULTS: The 5-year BRFS rate was 84.6% overall and 94.5%, 76.6%, and 54.6% for the low, intermediate, and high-risk groups, respectively (P <0.0001). In the contemporary era, a very small fraction (4.9%) of patients undergoing radical prostatectomy at our institution were in the high-risk group, with most (67.7%) in the low-risk group (P <0.001).

CONCLUSIONS: The D'Amico classification system continues to stratify men into risk groups with statistically significant differences in BRFS. However, the major shift in the distribution of patients among the three risk groups over time suggests that the clinical relevance of this classification scheme may be limited and diminishing in the contemporary era.

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