Prediction of Time to Castration-Resistant Prostate Cancer Using Bone Scan Index in Men with Metastatic Hormone-Sensitive Prostate Cancer.

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Abstract

INTRODUCTION: We evaluated bone scan index (BSI) as a predictive biomarker for time to castration-resistant prostate cancer (CRPC) in patients with metastatic hormone-sensitive prostate cancer (mHSPC).

MATERIALS AND METHODS: We identified 85 consecutive mHSPC patients treated with first-line androgen deprivation therapy. We analyzed the correlations between time to CRPC and clinicopathological characteristics, including age, prostate-specific antigen (PSA) level, Gleason score, clinical TNM stage, hemoglobin, lactate dehydrogenase, C-reactive protein, and BSI.

RESULTS: The median BSI was 2.7%. Progression to CRPC occurred in 55 (64.7%) patients and the median time to CRPC was 12.9 months. In multivariate analysis, 3 significant risk factors for time to CRPC were identified: age (>73 vs. ≤73 years; hazard ratio [HR] 0.53), p = 0.038, PSA level (>270 vs. ≤270 ng/mL; HR 0.53, p = 0.038), and BSI (>2.7 vs. ≤2.7%; HR 2.97, p < 0.001).

CONCLUSION: Age, PSA level, and BSI were found to be significant predictive factors for time to CRPC in patients with mHSPC.

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KEYWORDS: Biomarkers; Castration-resistant; Prostatic neoplasms; Radionuclide imaging

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