Clinical factors stratifying the risk of tumor upgrading to high-grade disease in low-risk prostate cancer.

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Abstract

PURPOSE: To identify clinical factors stratifying the risk of tumor upgrading to increasing patterns of the tumor grading system in low-risk prostate cancer (PCa).

METHODS: We evaluated the records of 438 patients who underwent radical prostatectomy. Associations between clinical factors and tumor upgrading were assessed by the univariate and multivariate multinomial logistic regression model.

RESULTS: Low-risk PCa included 170 cases (38.8%) and tumor upgrading was detected in 111 patients (65.3%): 72 (42.4%) had pathology Gleason pattern (pGP) 3 + 4, 27 (15.9%) pGP 4 + 3, and 12 (7.1%) pGP 4 + 4. Prostate-specific antigen (PSA) and proportion of positive cores (P+) were independent predictors of upgrading to high-risk disease. These factors also stratified the risk of tumor upgrading to the increasing patterns of the tumor grading system. The model allowed the identification of pGP 4 + 4. The main difference between high-risk PCa and other upgraded tumors related to PSA load (odds ratio 2.4) that associated with high volume disease in the specimen.

CONCLUSIONS: Low-risk PCa is a heterogeneous population with significant rates of tumor upgrading. Significant clinical predictors stratifying the risk of tumor upgrading to increasing patterns of the grading system included PSA and P+. These factors allowed the identification of the subset hiding high-grade disease requiring further investigations before delivering active treatments.

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