Clinical and pathological variables that predict changes in tumour grade after radical prostatectomy in patients with prostate cancer.

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Abstract
INTRODUCTION: Preoperative Gleason score is crucial, in combination with other preoperative parameters, in selecting the appropriate treatment for patients with clinically localized prostate cancer. The aim of the present study is to determine the clinical and pathological variables that can predict differences in Gleason score between biopsy and radical prostatectomy.

METHODS: We retrospectively analyzed the medical records of 302 patients who had a radical prostatectomy between January 2005 and September 2010. The association between grade changes and preoperative Gleason score, age, prostate volume, prostate-specific antigen (PSA), PSA density, number of biopsy cores, presence of prostatitis and high-grade prostatic intraepithelial neoplasia was analyzed. We also conducted a secondary analysis of the factors that influence upgrading in patients with preoperative Gleason score ≤6 (group 1) and downgrading in patients with Gleason score ≤7 (group 2).

RESULTS: No difference in Gleason score was noted in 44.3% of patients, while a downgrade was noted in 13.7% and upgrade in 42.1%. About 2/3 of patients with a Gleason score of ≤6 upgraded after radical prostatectomy. PSA density (p = 0.008) and prostate volume (p = 0.032) were significantly correlated with upgrade. No significant predictors were found for patients with Gleason score ≤7 who downgraded postoperatively.

CONCLUSION: Smaller prostate volume and higher values of PSA density are predictors for upgrade in patients with biopsy Gleason score ≤6 and this should be considered when deferred treatment modalities are planned.

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