Correlation of Preoperative and Radical Prostatectomy Gleason Score: Examining the Predictors of Upgrade and Downgrade Results.


Abstract

Preoperative Gleason score (GS) obtained from Trans Rectal Ultra Sonography (TRUS) is the most common grading system to evaluate the appropriate treatment for patients with clinically localized prostate cancer. But this method showed upgraded and downgraded results in comparison to Gleason score obtained from radical prostatectomy. The current study aimed to determine clinical or pathological variables to reduce the differences between biopsy and radical prostatectomy Gleason scores. Through retrospective review of 52 patients with radical prostatectomy, this study examined the correlations of preoperative Gleason score with age, prostate volume, PSA level, PSA density, digital rectal exam findings and percentage of positive core needle biopsies across two groups, including patients with preoperative GS≤6 (i.e. group one) and patients with preoperative GS≥7 (group two). The discordance between biopsy GS and radical prostatectomy GS was observed to be 52% in the current study. Among patients with preoperative GS≤6, prostate volume (P=0.026), PSA density (P=0.032) and percentage of positive core needle biopsies (P=0.042) were found to be significant predictors for upgrade. There was no significant predictor for downgrade in patients with preoperative GS≥7. Findings of this study revealed that in patients with preoperative GS≤6, smaller prostate volume, higher prostate density and higher positive results of core needle biopsies were associated with the upgrade of GS. Therefore, it should be considered when selecting treatment modalities among these patients.

KEYWORDS: Gleason score; Grade change; Prostate adenocarcinoma; Radical prostatectomy

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