Revised Gleason Grading System Is a Better Predictor of Indolent Prostate Cancer at the Time of Diagnosis: Retrospective Clinical-Pathological Study on Matched Biopsy and Radical Prostatectomy Specimens.


Abstract

INTRODUCTION/BACKGROUND: The increase of prostate cancer diagnosis after the introduction of prostate-specific antigen (PSA) screening resulted in overtreatment of patients with low risk tumors. The histological Gleason score (GS) revised in 2005 by the International Society of Urological Pathology (ISUP) is currently the most reliable tool to separate aggressive from indolent prostate cancer.

MATERIALS AND METHODS: Using the new 2005 GS criteria we retrospectively evaluated biopsy and surgical samples of 1344 patients who underwent radical prostatectomy in our institution. According to the new GS criteria we then selected 134 patients who would have been suitable for active surveillance at the time of biopsy (at least 2 positive cores, PSA < 10 ng/mL, GS ≤ 6). We finally assessed the accuracy of the revised GS in biopsy to predict indolent cancer in the prostatectomy specimens.

RESULTS: The mean GS increased from 6 to 7 after histological revision in biopsy and prostatectomy specimens. Histological revision determined a significant decrease of patients with GS ≤ 6 and an increase of those with GS ≥ 7 (all P < .001). The average of pathologically indolent disease (organ-confined, GS ≤ 6 at surgery, tumor of any volume) significantly decreased after histological revision (P < .001).

CONCLUSION: The revised ISUP 2005 criteria for Gleason grading provided better stratification of GS ≤ 6 prostate cancer and improved the accuracy for the histological diagnosis of indolent prostate cancer in biopsy and radical prostatectomy specimens.

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KEYWORDS: Active surveillance; Gleason grading; Histopathology; Indolent tumor; Prostate cancer

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