

Gleason Score from Needle Biopsy of the Prostate Predicts that from Radical Prostatectomy in Most Cases

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Gleason score has been identified as an important predictor of disease extent and the biologic behavior of prostate cancer. Despite statistically significant agreement between biopsy and prostatectomy Gleason scores, under-grading remains a major problem in clinical practice. Histologic grades, based on biopsy specimens, predict grades from corresponding prostatectomy specimens in most (72–83%), but not all, cases.¹ In this issue of the journal, Hsieh et al provide a well-written article, with a clear answer regarding the role of prostate biopsy in final prostate-cancer grading.²

Potential reasons for discordance between Gleason scores obtained from prostate biopsy and those obtained from surgical specimens are pathologic interpretation bias and sampling effects.^{3,4} Besides the low detection rate of focal lesions by transrectal ultrasonography, the limitations of biopsy sample size and sampling bias make differences in grading between biopsy and radical prostatectomy specimens unavoidable. Well-differentiated tumors detected by biopsy sample are not predictive of organ-confined disease, but a poorly differentiated lesion is a good indicator of extracapsular extension of cancer. Treatment algorithms for particularly well-differentiated tumors should not be deduced from biopsy histology alone. The prediction of prostatectomy Gleason score is only marginally improved by increasing the number of biopsies, and a unilateral positive biopsy does not predict unilateral disease. High values for prostate-specific antigen (PSA) at diagnosis, Gleason score, and the percentage of positive biopsies, are important predictors of under-staging.⁵ The percentage of positive biopsies should be incorporated into risk-assessment

models for newly diagnosed prostate cancer.

Prostate biopsy should be repeated when an initial diagnosis of adenocarcinoma is based only on limited amounts of neoplastic tissue with a low Gleason score, and management decisions should be influenced only by the true Gleason score of the tumor.⁶ Thus, additional parameters, such as PSA level and tumor volume, should be considered together with cellular differentiation, in the decision-making process for the management of newly diagnosed patients with prostate cancer.

References

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