

Gleason Score Discrepancies between Needle Biopsies and Radical Prostatectomy Specimens in African Men Divided into Three Prognostic Groups

Introduction and Objective: The Gleason score has been shown to offer important information with regard to prognosis and therapy for patients with adenocarcinoma of the prostate gland. In this study, Gleason scores, as determined by 18-gauge core needle biopsies, were compared with both Gleason scores and the pathological staging of corresponding radical prostatectomy specimens.

Materials and Methods: Records of 234 consecutive patients undergoing a radical retro pubic prostatectomy between 2000 and 2010 were reviewed. In total, all our patients were enrolled, all of whom had been diagnosed with adenocarcinoma by transrectal needle biopsies using an 18-gauge automated spring-loaded biopsy gun.

Results: Grading errors were greatest with well-differentiated tumors. The accuracy was 18 (23%) for Gleason scores of 2-4 on needle biopsy. Of the 108 evaluable patients with Gleason scores of 5-7 on needle biopsy, 84 (78%) were graded correctly. All of the Gleason scores of 8-10 on needle biopsy were graded correctly. 54 of 162 patients (33%), with a biopsy Gleason score of < 7 had their cancer upgraded to above 7. Tumors in 18 patients (60%) with both a Gleason score < 7 on the needle biopsy and a Gleason score of 7 for the prostatectomy specimen were confined to the prostate.

Conclusions: The potential for grading errors is greatest with well-differentiated tumors and in patients with a Gleason score of < 7 on the needle biopsy. Predictions using Gleason scores are sufficiently accurate to warrant its use with all needle biopsies, recognizing that the potential for grading errors is greatest with well-differentiated tumors.