Purpose: To define the impact of discordant Gleason sum (GS) between prostate biopsy (Pbx) tissue and radical prostatectomy (RP) specimen among men initially diagnosed with Gleason 6 or 7 prostate adenocarcinoma.

Materials and Methods: We evaluated patients diagnosed with GS 6 or 7 and treated primarily with RP. We defined the frequency of GS discordance between Pbx and RP pathology reports. We analyzed pretreatment parameters associated with GS discordance and compared immediate postprostatectomy outcome variables across patient groups defined by their GS and concordance. We then conducted survival analysis for biochemical recurrence across patient groups defined by their GS and concordance status.

Results: Among patients with GS 6 on Pbx, 681/1,847 (36.86%) patients were upgraded to GS 7 or higher after RP. Surgical margin, capsular involvement, seminal vesicle, and nodal involvement status were more favorable in patients with concordant Pbx and RP specimen with GS 6 (P < 0.0001). Patients with smaller transrectal ultrasound (TRUS) prostate volume were found to have higher PSA densities and were more likely to be upgraded at RP. Multivariate survival analysis also predicted fewer biochemical recurrence events over time in men with concordant Pbx tissue and RP specimen of GS 6 vs. 6/7 or 7/7 (P = 0.0025) controlling for other relevant covariates.

Conclusions: GS discordance between Pbx tissue and RP specimens among prostate cancer patients initially diagnosed with either GS 6 or 7 adenocarcinoma of the prostate is substantial. This discordance has potential clinical significance in predicting oncologic outcomes.

Published by Elsevier Inc.

PMID: 19117774 [PubMed - indexed for MEDLINE]