
Adverse pathological findings in needle biopsy gleason score 6 prostate cancers with low and intermediate preoperative PSA levels following radical prostatectomy.


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Abstract

AIM: We retrospectively analyzed the risk associated with undergrading Gleason score 6 (GS6) prostate cancer (PCa) at biopsy, in patients with preoperative PSA levels of 2-3.99 and 4-10 ng/ml.

PATIENTS AND METHODS: A total of 674 patients with needle biopsy-diagnosed GS6 PCa, who underwent radical prostatectomy (RP) between 1995 and 2011, were evaluated. Patients were stratified by preoperative PSA levels into low PSA (2-3.99 ng/ml) and an intermediate PSA of 4-10 ng/ml. Subsequently, the percentage of patients with extracapsular disease (pathological stage ≥pT3a) and/or positive surgical margins was determined among those whose RP GS was still 6 and compared to undergraded cases.

RESULTS: Out of 674 patients with needle biopsy-diagnosed GS6 PCa, 36.2% had no difference between biopsy and RP GS while 11.4% had been overgraded and 52.4% of patients were undergraded at biopsy. Stratified according to preoperative PSA levels, there was a significantly higher incidence of undergrading in the intermediate PSA group. Among those with ≥pT3a tumors, 74.1% were undergraded in needle biopsy, out of which 67.7% had intermediate PSA levels and 32.3% low PSA levels. Among patients with R1 resections 75.1% were underdiagnosed, out of which 75.9% had intermediate PSA levels. Stratifying these data according to preoperative PSA levels, ≥pT3a tumors and R1 resection were found significantly more often in the intermediate-PSA group.

CONCLUSION: The incidence of adverse pathological findings, including extraprostatic extension and positive surgical margins, is significantly higher in patients with undergraded biopsy GS6. Low preoperative PSA levels improved the correlation between primary and final GS and led to the reduction of unfavorable pathological findings.

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