Favorable Intermediate-Prostate Cancer Leads to Worse Survival Compared to Low-Risk Patients due to Adverse Pathology

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BACKGROUND

- Intermediate-risk (IR) prostate cancer is a heterogeneous risk group.
- Potential “favorable” IR criteria have been proposed based on data from patients receiving radiation therapy, but their application to active surveillance remains uncertain.
- Preoperative clinical stage and Grade Group (GG) on needle biopsy are often upstaged or upgraded on surgical pathology. Evidence from the Johns Hopkins Radical Prostatectomy (RP) Database suggests no amount of surgical pathology for GG2 prostate cancer relative to low-risk (LR) patients.
- We aimed to quantify the rate of adverse surgical pathology for potential definitions of favorable IR prostate cancer compared to LR disease and assess implications for survival in the National Cancer Database (NCDB).

METHODS

- **COHORT**
  - Men undergoing RP with data on biopsy and surgical pathology from the NCDB (2009-2013) were included.
  - Baseline and pathologic outcomes were compared for patients meeting clinically LR (GG1, ≤cT2a, PSA<10) or GG2 IR (GG2, ≤cT2b, PSA<20) disease.
- **ANALYSIS**
  - Various definitions for favorable IR disease were explored including the Memorial Sloan Kettering definition (MSK; GG2 with only one IR factor including GG2, cT2b, or PSA 10-20) and PSA and volume stratification of GG2 disease.
- **STRATIFICATION**
  - PSA and volume stratification slightly reduced the rate of adverse pathology for GG2 IR patients.
- **RESULTS**
  - MSK Definition vs. LR:
    - Age (OR 1.02 (1.02-1.03), p<0.001), higher PSA, and ≥3 Positive Cores were significant predictors of adverse pathology.
  - GG2 IR patients had worse OS compared to LR patients in adjusted models (HR 1.24 (1.06-1.45), p<0.007) (Table 1).

CONCLUSIONS

- Adverse pathology is observed at a three-fold higher rate for patients with GG2 prostate cancer or those meeting the MSK definition for favorable IR disease compared to LR patients.
- The presence of adverse pathologic findings led to worse survival for men in the favorable IR risk group, favorable IR men as a whole experienced worse survival relative to LR men.

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