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Prostate cancer Upgrading and Upstaging in a Multicenter Prostate Cancer Registry

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INTRODUCTION AND OBJECTIVES: To evaluate the final pathological outcomes and tumor stage of favorable risk prostate cancer (FPCa) treated by radical prostatectomy (RP) in a state wide multicenter registry and to evaluate the factors that would affect the Gleason (GS) upgrade and tumor upstage between prostate biopsy and radical prostatectomy specimens.

METHODS: Using data from the Michigan Urological Surgery Improvement Collaborative (MUSIC) registry, we identified all patients with FPCa (GS 3+3 or low volume GS 3+4, based on MUSIC Active Surveillance appropriateness criteria) who underwent RP after diagnosis. Primary outcomes of interest include: 1) upgrading on GS from the initial needle biopsy to RP pathology, and 2) pathological T3 or T4 stage. Multivariable logistic regression models were performed to assess the associations between patient characteristics and outcomes.

RESULTS: A total of 3,159 men were included for analysis. Overall upgrading and upstaging occurred in 40.7% and 14.3% of the patients, respectively. On multivariable analysis, age, BMI, PSA, greatest percentage of involvement in positive cores and Gleason grade 4 in diagnostic biopsy were associated with upgrading on GS ($p < 0.05$). All the aforementioned factors except for BMI were also associated with having pathological T3 or T4 stage ($p < 0.05$). Patients of African American (AA) descent were not at higher risk of tumor upgrade or upstage ($p = 0.24$ for upgrading and $p = 0.75$ for upstaging) compared to White men.

CONCLUSIONS: Our study found that, baseline tumor characteristics were affecting the final pathologic outcome, while race did not play a role in the final pathologic grade or stage PCa. According to our results we think that AA with FPCa are not at higher risk of tumor upgrade or upstage on surgical intervention.

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