

The Role of Genomic Testing to Guide Active Surveillance Strategies for Black Men with Low and Intermediate Risk Prostate Cancer

Background: Genomic testing is an increasingly studied approach for improving risk assessment in prostate cancer. Oncotype Dx® Genomic Prostate Score testing is an RNA expression assay performed on prostate biopsies. We assessed the utility of this test in risk-stratifying Black patients with low and intermediate risk prostate cancer.

Methods: We retrospectively identified 63 Black men deemed eligible for active surveillance based on National Comprehensive Cancer Network® guidelines, who underwent OncotypeDx® Genomic Prostate Score™ testing between April 2016-July 2020. Nonparametric statistical testing was used to compare relevant features between patients reassigned to a higher biological risk after genomic testing and those who were not reassigned.

Results: The median age was 66 years and median pre-biopsy PSA was 7.5. Initial risk classifications were: very low risk: seven(11.1%), low risk: 24(38.1%), favorable intermediate risk: 31(49.2%), and unfavorable intermediate risk: one(1.6%). Overall, risk classifications after Genomic Prostate Score testing were significantly higher than initial classifications ($p=0.003$, Wilcoxon signed-rank). Among patients with discordant risk designations, 28(28/40, 70%) had higher biological risk (HBR) after genomic testing. A pre-biopsy prostate specific antigen of greater than 10 did not have significantly higher odds of HBR (OR:2.16 [95% CI: 0.64,7.59, $p=0.2$]). Of favorable intermediate risk patients, 20(64.5%) were upstaged. A lower PSA density was associated with HBR (0.14 vs 0.29, $p=0.008$). Ultimately, 12 patients underwent definitive treatment.

Conclusions: Incorporation of genomic testing in risk stratifying Black men with low and intermediate-risk prostate cancer resulted in overall higher risk classifications. Our findings suggest a role for increased utilization of genomic testing in refining risk-stratification within this patient population. These tests may better inform treatment decisions on an individualized basis.

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