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.

Additional contributors to this project:
So Yeon Pak, BS
Omran Gdara, BS (joint presenter)
Benjamin Seiden, BS
Natalie Sun, BS
Stanley Weng, BS, MS
Matthew T. Smith, MD
Jack Barnett, BS
Akya Myrie BS
Danielle Gordon MD, MPH
William N. Harris MD
Tashzna Jones MD
John Shields MD
Brian