

#202 John Hordines

Advisor(s): Andrew Winer

Role of Multiparametric Magnetic Resonance Imaging in Prostate Cancer Diagnosis in Men of African Descent

Introduction and Objective: It has been well-documented that men of African descent not only have a higher risk of being diagnosed with prostate cancer, but also have a higher risk of being diagnosed with more aggressive disease. The rising use of multiparametric magnetic resonance imaging (mpMRI) allows providers to identify suspicious lesions with greater accuracy and assess their need for treatment prior to prostate biopsy. The objective of this study was to examine the use of mpMRI in men of African descent with suspected prostate cancer.

Methods: A retrospective study was performed within a municipal hospital center in Brooklyn, NY from June 2017-December 2019 of male patients who underwent a pelvic MRI. Inclusion criteria included males of African descent over the age of 18 who received at least one mpMRI and one prostate biopsy within two years of imaging to evaluate for prostate cancer. Patients diagnosed with prostate cancer Grade Group (GG) 2 or higher were considered clinically significant (csPCa).

Results: 170 patients were reviewed and 112 had a biopsy within the timeframe to meet inclusion criteria. The median PSA for this cohort was 9.13, with a median Prostate-Specific Antigen density (PSAD) was 0.1776. Overall, 35/51 (68.6%) of patients with biopsy verified prostate cancer were identified on mpMRI. 48/61 (78.7%) of patients with a negative biopsy were identified as negative on mpMRI. A positive predictive value of 73% was observed with a negative predictive value of 75%.

Conclusion: mpMRI has a comparable detection rate in a cohort of men of African descent with suspected prostate cancer compared to that found in the literature. These results suggest that mpMRI is at least equally effective for detecting csPCa in high-risk patient populations.

Additional contributors to this project:

Alex Z. Wang

Syed Rahman

Blaine Russ

John Barlog

Patrick Hammill

Justin Loona