

Heterogeneity of PET/CT imaging phenotype prognostic in mCRPC

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(HealthDay)—Metastatic castration-resistant prostate cancer (mCRPC)

has heterogeneity in positron emission tomography (PET)/computed tomography (CT) imaging phenotype, which has clinical relevance, according to a study published online Nov. 9 in *JAMA Oncology*.

Josef J. Fox, M.D., from Memorial Sloan Kettering Cancer Center in New York City, and colleagues performed PET/CT imaging with fluoro-2-D-deoxyglucose F 18 for glycolysis (Glyc) and fluorodihydrotestosterone F 18 for [androgen receptor](#) (AR) expression to determine heterogeneity of imaging phenotypes. A total of 133 patients with mCRPC underwent imaging.

The researchers found that each phenotype had an independent negative impact on survival in multivariate analysis, which was most pronounced for AR₀Glyc₁ [lesions](#), followed by AR₁Glyc₁ lesions and AR₁Glyc₀ lesions (hazard ratios, 1.11, 1.05, and 1.03, respectively). Four patient-specific groups emerged when sorted by lesion type: concordant, with all AR₁Glyc₁; AR predominant, with AR₁Glyc₁ and varying numbers of AR₁Glyc₀; Glyc predominant, with AR₁Glyc₁ and varying numbers of AR₀Glyc₁; and mixed, with AR₁Glyc₁ plus AR₁Glyc₀ and AR₀Glyc₁.

"With regard to mCRPC lesions, most express ARs, consistent with initial benefit of ARSi [androgen receptor-signaling inhibitor] drugs," the authors write. "On a patient basis, 49 percent (groups 3 and 4) had at least one AR₀Glyc₁ lesion—the imaging phenotype with the most negative effect on survival, possibly due to ARSi resistance."

Several authors disclosed financial ties to the pharmaceutical industry.

More information: [Abstract/Full Text \(subscription or payment may be required\)](#)

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