

# Unveiling the Power of PET-PSMA in Initial Staging of Prostate Carcinoma: KHCC Experience Essenced from PROCA Study

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## 1 Introduction and Objectives

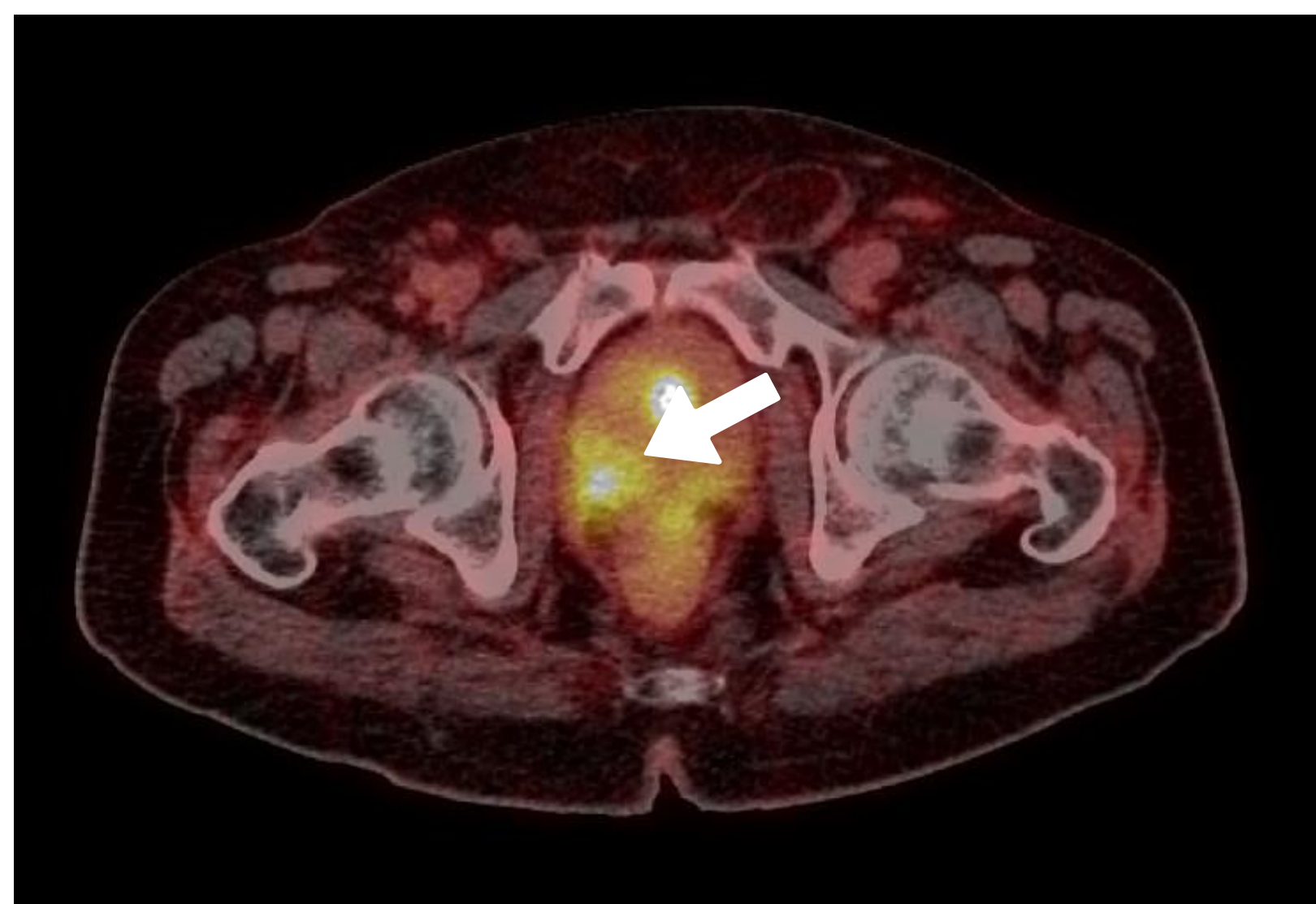
The aim of this retrospective study was to investigate the effectiveness of positron emission tomography (PET) and prostate-specific membrane antigen (PSMA) imaging in comparison to computed tomography (CT), magnetic resonance imaging (MRI), and skeletal scintigraphy for the initial staging of patients recently diagnosed with intermediate- and high-risk local prostate carcinoma.

## 2 Methods

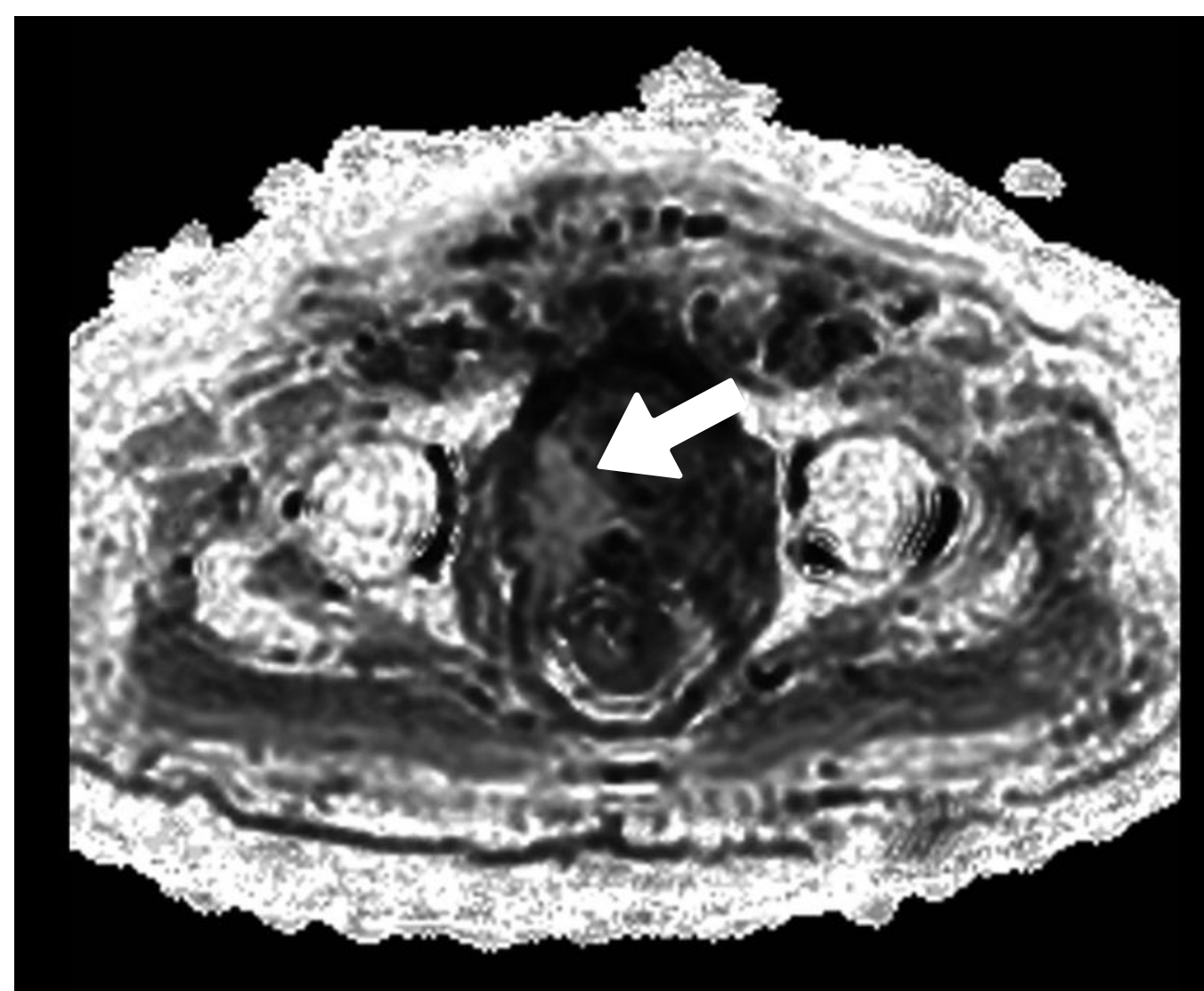
In a retrospective study, 202 patients diagnosed with prostate carcinoma were initially evaluated using a multimodality approach. This approach involves initial assessment through the utilization of  $^{68}\text{Ga}$ -PSMA PET/CT, MRI, CT, and skeletal scintigraphy. Patients were exclusively enrolled if they were categorized as high- or intermediate-risk. A comparison of the sensitivity and specificity of these modalities was conducted, with established histology post-prostatectomy serving as the reference standard.

## 3 Results

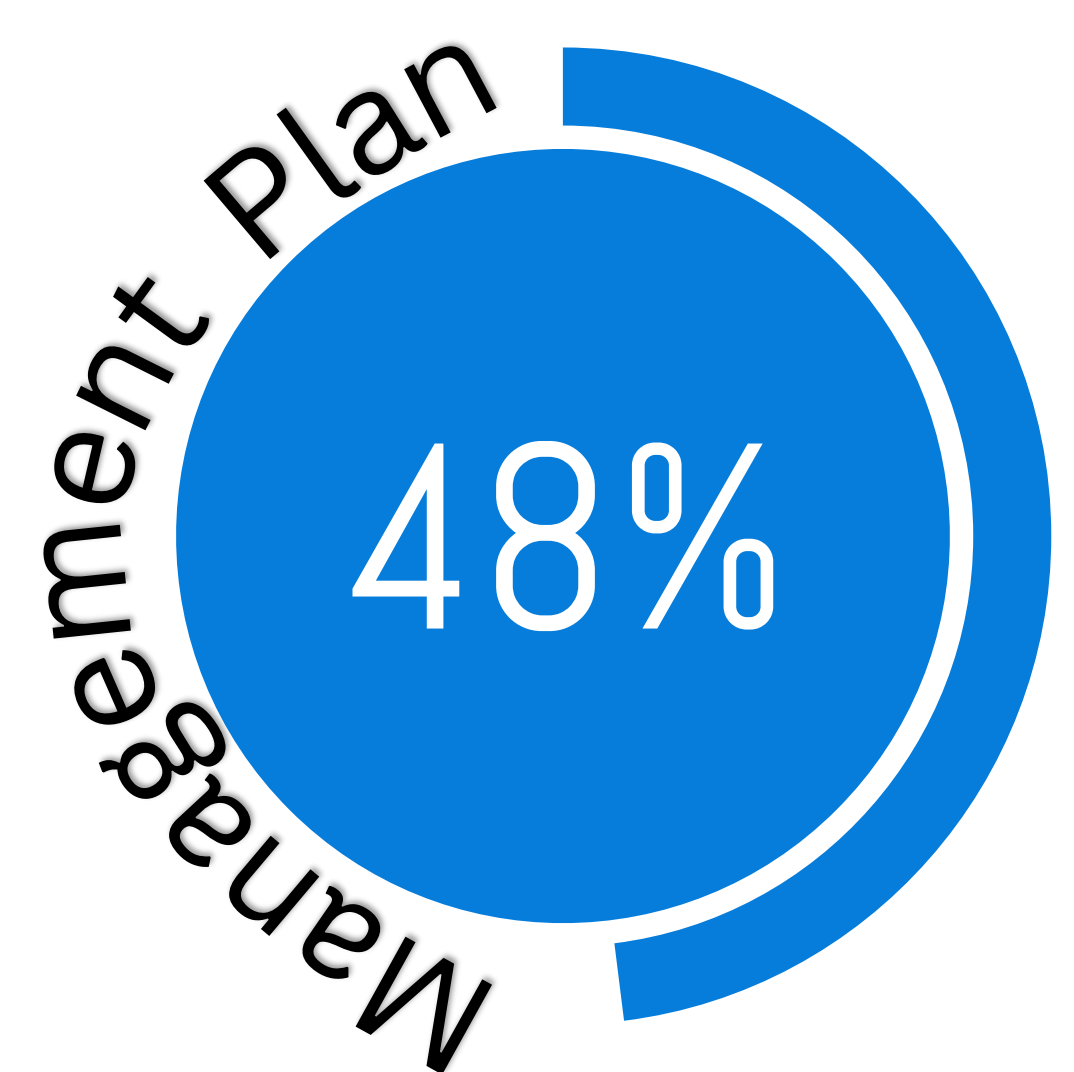
A total of 202 patients with intermediate and high-risk prostate carcinoma were retrospectively enrolled.  $^{68}\text{Ga}$ -PSMA PET/CT exhibited superior performance over other modalities, demonstrating statistical significance ( $p < 0.05$ , each).  $^{68}\text{Ga}$ -PSMA PET/CT had comparable accuracy to MRI in primary disease detection but a higher accuracy for nodal disease (97.1% vs. 82%,  $p = 0.03$ ). It also outperformed CT scans in nodal detection (97.1% vs. 73.8%), extra-pelvic lymph nodes (100% vs. 69%), and bone lesions via skeletal scintigraphy (100% vs. 60%). Furthermore, the reliance on the staging results retrieved from  $^{68}\text{Ga}$ -PSMA PET/CT changed the management scheme for 97 patients (48%).



**Pelvic PET/CT**



**Pelvic MRI**



## 4 Conclusion

$^{68}\text{Ga}$ -PSMA PET/CT is an invaluable imaging tool for patients with intermediate and high-risk prostate carcinoma. This novel imaging approach outperformed all other imaging modalities in the assessment of local, locoregional, and distant disease spread, with a significant impact on the management plan.

*Thank You*