



LETTER TO THE EDITOR

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Ga-68 PSMA PET/CT: Enhancing diagnostic precision and clinical decision-making in prostate cancer

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Dear Editor,

Gallium-68 labeled prostate-specific membrane antigen (Ga-68 PSMA) positron emission tomography-computed tomography scan (PET/CT) imaging has profoundly transformed prostate cancer diagnosis and management in nuclear medicine practice in recent years. This letter briefly addresses its diagnostic superiority, therapeutic impact, adherence to current guidelines, and practical insights into its application in Türkiye.

Firstly, Ga-68 PSMA PET/CT has demonstrated considerable diagnostic superiority compared to conventional imaging modalities such as CT, magnetic resonance imaging (MRI), and bone scintigraphy. The prospective multicenter ProPSMA trial illustrated significantly higher accuracy for Ga-68 PSMA PET/CT (92%) compared to conventional imaging (65%) in identifying metastatic prostate cancer, representing a clinically significant improvement (27% absolute difference, $p < 0.0001$) [1]. A recent systematic review also confirmed its higher sensitivity (91-100% vs. 50-91%) and specificity (88-100% vs. 19-96%) in detecting skeletal metastases compared to bone scans [2].

Secondly, this enhanced diagnostic accuracy significantly influences clinical management. It has been reported that the use of Ga-68 PSMA PET/CT changes therapeutic strategies in approximately 56% of patients, shifting treatment from local interventions to systemic therapies or metastasis-directed

therapies [3]. Furthermore, it facilitates selecting appropriate candidates for radionuclide therapy such as Lu-177 PSMA, thus playing a vital role in personalized treatment planning [4].

Thirdly, Ga-68 PSMA PET/CT imaging aligns with recent international and national guidelines. Both the European Association of Urology (EAU) and the American Society of Clinical Oncology (ASCO) guidelines have incorporated Ga-68 PSMA PET/CT as a preferred imaging technique in specific clinical settings, such as high-risk localized disease and biochemical recurrence scenarios [5]. Similarly, Turkish national guidelines published in 2020 provide clear recommendations to standardize and optimize its use in clinical practice [6].

Lastly, Ga-68 PSMA PET/CT is now widely implemented across multiple centers in Türkiye, significantly impacting prostate cancer patient management. Local studies and clinical experiences confirm its diagnostic accuracy and effectiveness in clinical decision-making. Additionally, Türkiye's recent advancements in radionuclide therapy infrastructure, notably Lu-177 PSMA therapy, highlight the growing role of theranostic applications in our country.

In conclusion, Ga-68 PSMA PET/CT represents a pivotal advancement in nuclear medicine, offering superior diagnostic accuracy, significantly influencing therapeutic decisions, adhering closely to international guidelines, and rapidly expanding in clinical practice within Türkiye.

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Conflict of Interests

The authors declare that there is no conflict of interest in the study.

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