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Letter to the Editor

Re: 'Prostate-specific membrane antigen positron emission tomography in addition to multiparametric magnetic resonance imaging and biopsies to select prostate cancer patients for focal therapy'

We read with interest the study by Geboers et al. [1] evaluating the additional value of prostate-specific membrane antigen-positron emission tomography (PSMA-PET) to conventional diagnostic tools to select patients for hemi-ablative focal therapy (FT). The aim of the study was to evaluate the accuracy of PSMA-PET, multiparametric MRI (mpMRI) and systematic biopsies (separate and combined) to identify prostate quadrants with clinically significant prostate cancer (csPCa) in a FT-eligible patient cohort. The study enrolled retrospectively patients undergoing radical prostatectomy (RP) who met the eligibility criteria for FT (PSA level <15 ng/mL, ≤T2b, International Society of Urological Pathology Grade 2–3). According to their results, adding PSMA-PET to mpMRI plus biopsies improves the accuracy from 0.79 to 0.84 on area under the receiver operating characteristic curve (AUC) analysis in the selection of patients for hemi-ablative FT. Moreover, addition of PSMA-PET correctly identified 26/46 (57%) unsuitable patients and resulted in four of 138 (3%) false-positive exclusions.

Being aware of the authors' good intention to make the treatment for PCa increasingly minimally invasive, thus reducing side-effects associated with radical treatment and improve quality of life, we have some concern about the following points according to the current evidence [2].

We believe that, although supported by statistically significant results, the diagnostic accuracy with the addition of PSMA-PET to mpMRI and prostate biopsy in terms of the AUC deviates from a moderately accurate level to only slightly higher (ranging from 0.79 to 0.84), at the expense of a reduction in specificity from 83% to 80% when adding PSMA-PET. These data confirm the positions of European guidelines, which define PSMA-PET as highly accurate for disease staging but recommend against modifying the planned treatment based on its results. Therefore, the benefits of using PSMA-PET for the primary diagnosis of csPCa remain uncertain in the light of current evidence, and further extensive research on the topic is necessary [3].

The ideal candidates for hemi-ablative FT are patients with unilateral disease confined to the organ. Several studies have evaluated the accuracy of sextant and/or extended biopsy in predicting unilateral tumours. The rate of agreement on unilaterality of PCa between biopsy and RP specimen was <30%. In this study, 112 patients met the eligibility criteria for FT with the addition of PSMA-PET to mpMRI and biopsy. However, >20% (20/112) would not have met the criteria for FT upon final histological examination derived from RP, representing a numerically significant proportion of patients. Furthermore, at least two completely different strategy for biopsy were included: a saturation like template (mean of 29 biopsies) and a standard mean 12-cores template.

Notwithstanding these limitations, the authors' have the merit of evaluating the possible role of PSMA-PET as a diagnostic tool for PCa and particularly to select best candidates for FT [2]. However, we believe that, despite the increasing claim of PSMA-PET as a more accurate method, it suffers from excess sensitivity, and its use should be directed towards patients with a high risk of metastatic PCa, particularly when the traditional imaging is controversial or in doubt. [3,4]. Until further studies confirm its validity in this setting, we support the importance to focus on improving the diagnostic accuracy of mpMRI through standardising report interpretation, incorporating artificial intelligence, and centralising the execution of the method within high-volume hospital centres [3–5] rather than adding new possible imaging modalities with their own limitations.

Disclosure of Interests

None declared.

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Abbreviations: AUC, area under the receiver operating characteristic curve; FT, focal therapy; mpMRI, multiparametric MRI; (cs)PCa, (clinically significant) prostate cancer; PET, positron emission tomography; PSMA, prostate-specific membrane antigen; RP, radical prostatectomy.

