Peer Review File

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Reviewer A

Comment 1- PSMA PET/CT is recommended for initial staging, not just BCR, per the NCCN guidelines. This is because it is a noninvasive option that can detect metastases at quite low PSA levels. The question however is whether best to perform PSMA PET/CT prior to radical prostatectomy or after. One could argue that after is better for staging but the question then arises on whether to pursue PLND with the radical prostatectomy or not. I would clarify this in your introduction as to why PSMA PET has not been evaluated in initial staging as frequently as it has for BCR.
Reply 1- We thank the reviewer for their comments. We have clarified this important aspect in the introduction section (Lines 97-102).

Comment 2- Please spell out MSKCC (Memorial Sloan Kettering Cancer Center). And explain the use of evaluating the MSKCC normogram for this analysis on sensitivity/specificity of PSMA PET at initial staging. It doesn't seem to contribute to the main purpose of the study.
Reply 2- We are sorry for this inconvenience. We spelled out MSKCC in the text. (Line 52 and 91)
We completely agree with the reviewer. We forgot to add the MSKCC risk of LNI as a variable to consider in the statistical analyses. We added it in the statistical section (Line 154) and in Table 1.

Comment 3- Please correct the following sentence in the discussion: "However, a study of the EAU Young Academic Urologist-Robotic Section analyzing the results of five high volume European centers revealed 77.8% of ePLND in patients with LNI>5% with only 4.1% nodal metastasis." This sentence doesn't make sense.
Reply 3- We completely agree and we apologize for this inconsistence. We have corrected the sentence to make it clearer. (Lines 202-205)

Comment 4- Much of the discussion was spent discussing the role of lymph node metastasis risk prediction. This can be removed/reduced.
Reply 4- We have adopted the reviewer’s suggestion and we removed part of the discussion on lymph node metastasis risk prediction (Lines 194-199 and 208-215).

Comment 5- Please edit the paper to make it more concise. But expand on the utility of PSMA PET/CT at initial staging. You touch on it without actually discussing it.
Reply 5- We adopted the reviewer’s suggestion and we modified the discussion section (Line 200, 239-241, 250-254)

Reviewer B

Comment 1-The idea is interesting and the manuscript is well written.

Reply 1- We thank the reviewer for their positive comments.

Comment 2-Major concerns:
the authors did great job in addressing manuscript weaknesses! the number is really small and readers cannot draw a conclusion because it will be not statistically valid. Moreover, the idea is NOT novel anymore; PSMA is now incorporated in the major urology (European and NCCN) guidelines, and it is recommended to use it when it's available. Also prospective multi-institutional studies have already addressed the same question of this study; e.g.: Hope et al. Diagnostic Accuracy of 68Ga-PSMA-11 PET for Pelvic Nodal Metastasis Detection Prior to Radical Prostatectomy and Pelvic Lymph Node Dissection: A Multicenter Prospective Phase 3 Imaging Trial. JAMA Oncol. 2021 Nov 1;7(11):1635-1642. (interestingly it was not cited in the manuscript).
Reply 2- We agree with the reviewer that the number of patients is small, as reported as a limitation of our study. However, the EAU guidelines recommend not to change treatment strategies based on PSMA PET/CT findings. In view of currently available data and when using PSMA-PET or whole body MRI to increase sensitivity, we need to be aware of the lack of outcome data on subsequent treatment changes (Strong). PSMA PET/CT is more accurate for staging than CT and bone scan for high-risk disease, but to date no outcome data exist to inform subsequent management (LE1b). The EAU GL does not recommend the use of PSMA PET when it is available instead of CT and scintigraphy. For these reasons, data regarding the use of PSMA in primary staging, especially for lymph node staging is a trending topic with various articles published in recent years.
Our study, with its high sensitivity and homogeneous population, may add more evidence about this topic.
We regret to have missed the interesting paper by Hope et al. We added this study to the discussion section (Lines 250-254). All the articles cited in the paper and in general all the literature on PSMA PET in primary lymph node staging have already addressed the same question, with the aim to gather as much evidence as possible.

Minor concerns:
The manuscript is well written but I have few comments:
Comment 3-1. MSKCC: abbreviation needs elaboration.
Reply 3-We are sorry for this inconvenience. We spelled out MSKCC in the text. (Line 52 and 91)

Comment 4-2. Page 8, Line 173-174: the sentences are duplicate!
Reply 4- We are sorry for this inconvenience. We have deleted the duplicate.

Comment 5-3. Table 1: Age range in N- and N+ is up to 71.5 and 71. While in the abstract up to 76 years were included?
Reply 5- In the abstract, were reported the mean and range, while in the table the median and IQR, as specified in lines 49-50 and in the table.

Comment 6-4. Table 1: I suggest adding category of preop- risk group: fav IR/ unfav IR and HR.
Reply 6- We adopted the reviewer’s suggestion, and we added these pieces of information in table 1.