

Peer Review File

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Reviewer A

A clear concise summary of the paper in question. The authors correctly identify some of the areas in need of more research, in particular the use of PSMA PET in biochemical relapse and the impact of detection of oligorecurrent disease on long term survival.

Reply 1: We thank the reviewer for their comments.

Changes in the text: Not applicable

Reviewer B

The authors review the EAU BCR risk stratification recommendations and their use for salvage therapy after RP.

Extremely well written.

While the authors touch on the role of ADT with salvage XRT, I am curious to hear the authors speculate on the role intensified ADT with salvage XRT in light of the EMBARK data and other XRT specific studies (FORMULA-509, etc.).

Reply 1: We thank the reviewer for their comments. The data on intensified ADT with or without salvage radiation therapy adds further nuance and complexity to discussions with patients who are eligible for these therapies at the time of biochemical recurrence. From our perspective, additional work must be done to understand if and when intensified ADT monotherapy may be equivalent to or preferable to an approach that incorporates salvage XRT, in patients who are otherwise good candidates for salvage XRT.

Changes in the text: We have added further discussion and citations of EMBARK and FORMULA-509 to page 3, first full paragraph.

Reviewer C

It is a well-written and comprehensive manuscript on the management of biochemically

recurrent prostate cancer following radical prostatectomy.
I think it can be accepted in its original form.

Reply 1: We thank the reviewer for their comments.

Changes in the text: Not applicable

Reviewer D

"...to note the results of the RTOG 0534 ‘SPPRT’ trial": I think there is a spelling error in the trial name, please check and rephrase

Reply 1: We thank the reviewer for their comments. Indeed, we have corrected this.

Changes in the text: Changed “SPPRT” to “SPPORT” (page 3, first full paragraph)

The incorporation of prostate-specific membrane antigen (PSMA) positron emission tomography (PET) imaging, in both the upfront and salvage settings add further complexity to the equation: I think that incorporation of PSMA imaging for tailoring salvage treatment options (e.g., salvage radiotherapy, metastasis directed therapy or androgen deprivation therapy) is of utmost importance in this setting. For an appropriate discussion, I suggest to cite PMID: 37012498

Reply 2: Thank you for this comment. We now include this citation with a discussion that management of patients with BCR in the PSMA PET era is an area of active investigation.

Changes in the text: Added a line of discussion on page 3, 2nd full paragraph.