Reviewer's report

Title: Level of invasion into fibromuscular band is an independent factor for positive surgical margin and biochemical recurrence in men with organ confined prostate cancer

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Reviewer: Kenneth Iczkowski

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1. A major flaw with this paper is the use of the term capsule, for the prostate. The notion of a prostatic "capsule" is not relevant to staging for two reasons. First, the prostate does not have a true capsule but a pseudocapsule that is discontinuous at the apex, the anterior surface (where it interdigitates with skeletal muscle), and bladder base. In order for the authors to validly use the term, PCI, only patients whose cancers were poterolateral would have to be included, while excluding those with dominant anterior or apex nodules. Are the authors willing to exclude such cases?

Second, the notion of whether cancer is "into the capsule" or "through the capsule" has poor interobserver reproducibility. However, cancer in contact with fat has excellent reproducibility. It is for these reasons that the International Society for Urologic Pathology recommends the term Extraprostatic Extension (EPE) and is against the "into the capsule versus through the capsule" which has become outdated since Dr. Tom Wheeler's 1998 paper.

2. Anterior cancer is not recognized as having a worse outcome than posterior. For that reason, the distance of tumor from the posterior margin was found not to predict recurrence, while tumor that was <1 mm from the anterior margin did predict recurrence. It was recommended to report tumor that is <1 mm from the anterior margin.1 Also, both margin positivity and tumor volume correlate with presence of anterior tumor.2 Kryvenko et al. have shown that patients with significant prostate cancer more commonly had anterior-dominant cancer (58%) versus patients with insignificant cancer (21%).3 Are the
authors willing to include anterior versus posterior location of "PCI" and anterior versus posterior location of "PSM" in their multivariate analyses?

References

3. On top of page 5, it is stated that PTV and level of PCI were independent predictors on multivariate analysis. What went into the MVA? Patient age? Gleason grade group? Serum PSA? Margin status? Focal versus extensively positive margin?
This critical information is missing from the Materials and Methods as well as from Table 2. It needs to be, at least, in Materials and Methods and/or Table 2 legend.

4. Toward the end of the Results, it is stated that among groups with Gleason score greater than 4+3, certain rates of 4 groups were given. That would be men with Gleason 8-10 prostate cancer, or Grade Groups 4-5 (p=0.012). Was this same analysis done for Grade Group 1, Grade Group 2, and grade Group 3 and found to be insignificant? That is, it was significant only for merged Gleason Grade Groups 4 and 5? This is incomplete information, and so the effect of PSM and EPE as a function of all of the possible Grade Groups should be shown along with respective p-values.

5. English language usage is faulty and makes the paper hard to read. An expert or native English speaker needs to go over the language to eliminate (just one example) "despite of pT2 disease status" in the Conclusions. Top of page 4: "perpendicular to the major" should be "perpendicular to the major axis."
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
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No

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