Reviewer’s report

Title: A prospective study of magnetic resonance imaging and ultrasonography (MRI/US)-fusion targeted biopsy and concurrent systematic transperineal biopsy with the average of 18-cores to detect clinically significant prostate cancer

Version: 1 Date: 30 Jul 2017

Reviewer: Daniel Jason Margolis

Reviewer’s report:

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Prior Comments 1-4, 6, 9, and 10: addressed

Prior comment 5, Methods, Clinically significant prostate cancer: I think the authors mean, "We defined CSPC as cancers that did not fulfill ALL of the Epstein criteria... " As currently stated, satisfying one of the criteria would qualify as insignificant.

Prior comments 7 and 8, Results: I apologize if my question was unclear. I cannot tell if any subject (patient) had a MRI with no suspicious areas. This is referred to as a "negative" MRI, as it is negative for suspicious finding. It is still important to list how many subjects' MRI had no suspicious areas, how many had only 1 suspicious area, and how many had more than 1 suspicious area. The authors seem to confuse a negative MRI with a negative targeted biopsy. A negative targeted biopsy only occurs when the MRI is NOT negative, because a negative MRI would have no targets. Also, in the Discussion, the authors should include the possibility that they under-detected cancer by targeted biopsy not only because of inaccurate interpretation of the MRI, but possibly also MRI technique (the use of a single very high b-value introduces noise, and the low temporal resolution could miss early enhancement) or that the targeting was inaccurate. Finally, in the discussion, the authors state, "The upgrading rate for TB (vs. SB) were reported as 22% of the cases (43/198) [3]" where they seem to be referring to Siddiqi's results, not their own. The use of the imperfect past tense ("were") as opposed to the perfect past tense ("has been") results in this confusion.

Additional Comments:

Results, paragraph 2: The authors state, "There was agreement between the Gleason scores for the TB and SB specimens in 62.7% (111/177) of all patients, and in 43.1% (50/116) of the patients" - I think this last statement is meant to state "... of the patients with cancer."

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

**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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Yes

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I am able to assess the statistics

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Acceptable

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