Reviewer’s report

Title: The VENUSS prognostic model to predict disease recurrence following surgery for non-metastatic papillary renal cell carcinoma: development and evaluation using the ASSURE prospective clinical trial cohort

Version: 0 Date: 08 May 2019

Reviewer: A. Ari Hakimi

Reviewer's report:

The authors should be commended on collecting a large cohort of aggressive "papillary" renal cell carcinomas, and utilizing an external validation cohort as well as comparing with known prognostic risk score groups.

My main concerns revolve around the definitions of papillary RCC and the definition used in the high grade setting as well as the possibility they have included a groups of high grade unclassified tumors with papillary features. The classification of high grade vs low grade as a surrogate for papillary type 1 and type 2 is not supported by robust studies. Additionally a significant percentage of "type 2" papillary rcc's are actually HLRCC and would may have additional molecular workup. This could be a major confounder given the highly aggressive outcomes, this should be interrogated if possible and if not should be acknowledged as a significant limitation.

The lack of central review should be addressed more thoroughly, what was the definition of necrosis - percentage? sarcomatoid - percentage?,

Many centers do no routinely grade papillary tumors in Fuhrman grades and there are a substantial number of papillary type 1 tumors in our institution and others that are thought to be high grade, I think the authors should caution utilizing this grading system as a characterization of type 1 and type2

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.

Not applicable
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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