Reviewer's report

Title: Prognostic value of preoperative neutrophil-to-lymphocyte and platelet-to-lymphocyte ratios, and multiphasic renal tomography findings in histological subtypes of renal cell carcinoma

Version: 2
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Reviewer: Nicholas Harding-Jackson

Reviewer's report:

Major Compulsory Revisions

This study outlines two goals: 1) to determine the relationship between renal cell carcinoma subtypes, all-cause mortality and biochemical parameters, and 2) to analyze the multiphasic multidetector CT findings in these cases.

In reference to goal #1, the authors determine that age, NLR, hemoglobin, and creatinine are significantly correlated with mortality using logistical regression analysis. The authors appropriately reference the study authored by Ohno et al. (2010), who documented this finding in non-metastatic RCC, independent of histologic subtype. The findings documented here agree with previously published findings, and in fact use an identical cutoff value for NLR (2.7) as is employed in Ohno et al. The question, it appears, is whether this predictor of mortality varies significantly between different histologic subtypes. This question should be more directly addressed in the results, rather than being inferred by omission that there is no significant difference in NLR between histologic subtypes. The issue of the utility of NLR in predicting prognosis is potentially interesting, particularly in light of discrepant results of previous publications (Ohno et al, Pichler et al, Jagdev et al). The authors reference these studies and draw attention to their focus on metastatic versus non-metastatic RCCs. However, the current study does not document metastatic disease, which seems to be a recurrent issue both in comparing the current data to previous studies as well as in determining internal validity.

The authors appropriately indicate one of the major drawbacks of the study, that tumor staging has not been taken into consideration. This seems to be an essential issue to address. I am sympathetic to the challenges of documenting extent of disease using preoperative chart review. However, without knowledge of invasion, and appropriate staging, it is unclear whether these biomarkers are simply serving as a surrogate marker for stage (if this is the intent of the study, then this should be indicated, rather than inferred by the reader).

Regarding goal #2, significant differences in corticomedullary density were found when comparing different histologic subtypes of RCC. The study introduces new findings regarding the variable density of sarcomatoid, papillary, mixed and clear cell RCC, and notes that increased tumor size is significantly associated with mortality at two years. Presumably, this finding may be of interest preoperatively
(without histologic subtyping) in helping to stratify the significance of various biomarkers which are found to correlate with mortality. The association between CT findings and biomarkers, however, is not established or addressed in any way. There is no indication that these two separate sets of variables (biomarkers and CT densities) should be presented together in the current study.

If the authors intend to publish both sets of data in a single study, they should demonstrate that the biomarkers in question show different levels of significance in different histologic subtypes. This case is not made convincingly or with clarity, therefore I see no justifiable reason for jointly reporting these two sets of findings.

Minor Essential Revisions

Figure 2 (survival functions) contains no units for time. I have inferred that this is measured in months, however this should be indicated on the figure.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

No competing interests.