Reviewer's report

Title: Eplerenone attenuates pathological pulmonary vascular rather than right ventricular remodeling in pulmonary arterial hypertension

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Reviewer: David Welsh

Reviewer's report:

In this manuscript, Boehm et al examines eplerenone and its role in reducing pathological pulmonary vascular but not right ventricular remodelling in pulmonary arterial hypertension

This study is from a well-respected group of researchers and collaborators in the field of pulmonary hypertension. Therapeutic targets for RV dysfunction is a current need and hence this type of study is both contemporary and relevant. The authors use a sugen mouse model to examine the effects of eplerenone, an aldosterone inhibitor, on the pulmonary vasculature and a pulmonary artery banding model to isolate the effects of the inhibitor on the right ventricle. The manuscript is well written and the figures are clear and well described. I have some general comment below.

General Comments

1) There has already been quite a lot of work done in this area, both in patient samples and in animal models. The work presented here is therefore more confirmatory in nature.

2) The authors use a prevention study to examine the effects of eplerenone on the pulmonary circulation but refer on numerous occasions to the effects of the drug as "directly targeting the diseased pulmonary vasculature". This is misleading as the drug if anything is protecting the normal pulmonary vasculature from disease. I feel is could easily be argued that, at best, eperenone is merely slowing down disease progression as the pressures, for example, in the treated and non-treated groups are very similar. A longer study duration may have shown no differences between the groups and therefore a reversal study, like in the PAB study, would have been a better choice and would have been more directly comparable.

3) The authors should refrain from referring to non-significant findings (such as TPRi) as "trending" in a direction that implies significance to the findings.
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?
If not, please explain in your comments to the authors.

No

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 am able to assess the statistics

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