Reviewer's report

Title: A Clinical Prediction Score for Diagnosing Unilateral Primary Aldosteronism May Not Be Generalizable

Version: Date: 21 October 2014

Reviewer: Gian Paolo GP Rossi

Reviewer's report:

Kline et al performed a single-centre retrospective study to confirm the result of a recent study by Kupers et al that proposed a clinical prediction score to select the patients to be submitted to AVS. The conclusions of this study are that this score has a low specificity. While of interest this conclusion could be anticipated given that the score was based on CT (which, by definition, provides only imaging data and no functional information), and on the presence of hypokalemia and/or hyperfiltration.

Nonetheless, the results are important and could be of interest for the Journal. However, the following issues deserve attention.

Major criticisms

1. The last sentence of the abstract is rather obscure: what does it mean “local validation”? Either a score is valid and generalizable or it is not. Please rephrase.
2. Incorporation of hyperfiltration in the score is a naïve assumption, because PA patients have hyperfiltration initially, but develop hypofiltration when they develop renal damage. Hence, using hyperfiltration in a score without taking into account the known duration of hypertension and the CKD class is probably too simplistic. This should be discussed.
3. The gold standard to validate any diagnostic score or test should be outcome. In this regards it is not entirely clear what was done for the ROC analysis that requires a binary outcome. Moreover, using only the fall in BP after adrenalectomy is not per se sufficient to confirm the diagnosis of lateralized PA as shown by Gordon’s group.
4. The Authors should provide the ARR data post-op and also give data on normalization of PRA, aldosterone and the ARR, or at least acknowledge this as a limitation of their study if data are unavailable.
5. Discussion is too long and wordy. Some sections can be deleted.

Minor comments

Page 4 line 11 what is a high success rate? Please give a number.
Line 17 what is seated, upright? Please specify.
Line 19 It is usually advices to use 0.2 ng/ml/h to avoid inflation of the ARR. Why 0.1 was used? This caused a two-fold inflation.
Page 11 line 24 CPS are an important tool. Please correct to … is …. Or remove .. an …. 

Figure 2: please report 95% CI and Youden index on the ROC curve. The font size of axis labels is too small.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: 

I declare that I have no competing interests.