Author’s response to reviews

Title: The Captopril Challenge Test for Diagnosing Primary Aldosteronism in a Chinese Population

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Author’s response to reviews:

We are very grateful for the reviewers’ positive comments and constructive input. We have answered all the concerns raised by the reviewers. We didn’t make change of the manuscript. Here is our point-by-point response:

Reviewer reports:

Candy Sze (Reviewer 1):

Overall: An interesting study, raising the point that a CCT cut off value may not be valid internationally. However, this point has already been looked into by another group in China, Song et al, which you have referenced. Is the study to confirm the inaccuracy of CCT and the use of post-CCT ARR in the Chinese population, which has been already been published by 2 different Chinese groups already. The use of a post CCT AAR cut off of 20 is already in the Japanese and Taiwan guidelines.

I am not convinced by what is new to this study that has not already been published

Response: I think two points make our study different from previously published data, 1) Our study included patients recruited from areas of China different from those in the other two studies. It makes sense to test the conclusion in patients from different area with different diet in
China; 2) The two published studies performed in China have recommended using the post-CCT PAC to confirm a diagnosis of PA. According to our results, post-CCT ARR is better than PAC. Although the guidelines from Japanese and Taiwan recommend the same cut off but without providing reference and primary resources.

Background - I think it is unclear why CCT was chosen over the other confirmatory tests. Is it the cheapest method or most accessible method? Is it be cheaper than oral sodium loading? What is the accuracy of the other confirmatory tests in the Chinese population, which could be used instead if CCT is not appropriate for the Chinese population?

Response: CCT is time-saving and easy-conduct compared to oral sodium loading. As we addressed in discussion, other data collected in China have demonstrated that PAC suppression in the SIT is also lower in Chinese than in Western patients (line 249-250). In China, we use diagnostic criteria of CCT and SIT different to the guideline from Western countries.

Method - for adrenal venous sampling with synacthen infusion - a cannulation ratio of >2 seems to be a bit low, can you explain why you have chosen 2, as Mayo Clinic uses a ratio of >5

I think the study needed another confirmatory test to confirm the diagnosis and its accuracy to make this study stronger or collaborate and have the same study comparing Asian and western population.

Response: In our practice, adrenal vein sampling (AVS) procedures were performed using the bilateral simultaneous technique without cosyntropin stimulation. According to the Expert Concerns of AVS [Hypertension, 2014(63):151-160], the cutoff value for the SI should be ≥2.0 under unstimulated conditions.

The diagnosis of PA is further confirmed by follow-up data after adrenalectomy or treatment with mineralocorticoid receptor antagonists in our study. It is a great idea to conduct the same study comparing Asian and Western population, we hope we can do it in the future.

Results and conclusion drawn was all appropriate but I just cannot see anything new in your results that is not already in the literature.

Response: We have response this in the first question.

Franco Veglio (Reviewer 2): The study is clinically well performed, but the results on post-CCT ARR test are not novel and mainly confirmatory.
The only original data of the paper are that PAC suppression percentage after CCT recommended by current clinical guidelines (>30%) is not applicable when diagnosing Chinese subjects with PA.

The interest of this topic is restricted to Chinese population.

Response: According to the literature, the conclusion of this study also applicable in Japan.