Author’s response to reviews

Title: The Role of the Fractional Flow Reserve in the Coronary Steal Phenomenon Evaluation Caused by the Coronary-Pulmonary Fistulas: Case Report and Review of the Literature

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Author’s response to reviews:

Dear Editors and Reviewers:

On behalf of my co-authors, we thank you very much for giving us an opportunity to revise our manuscript, we appreciate editor and reviewers very much for their positive and constructive comments and suggestions on our manuscript entitled “The Role of Fractional Flow Reserve in Evaluating the Coronary Steal Phenomenon Caused by Coronary-Pulmonary Fistulas and Review of the Literature” (ID: JCTS-D-19-00162). Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have read comments carefully and have made correction which we hope meet with approval. Revised portion with 'tracked changes' or marked in coloured will be submitted in the new manuscript. The main corrections in the paper and the responds to Editors and the reviewer’s comments are as following:

Responds to the reviewer’s comments:

Reviewer #1:

Comment 1: there is very interesting case

Response: Thank you so much for your comment.

Reviewer #2:

Comments 1: I believe it is not suitable for publication in your journal because of [apart from extensive grammatical errors].
Response: Thank you very much for your valuable suggestion. I am so sorry for our poor English. We had resort to the English language editing service and correct the manuscript.

Comments 2: They argue that FFR can be used to decide if a pulmonary artery fistula causes ischaemia. The reality is however that these are congenital abnormalities and the feeder artery would develop to a size that will ensure sufficient flow to both branches [Angelini et al. Tex Heart Inst J. 2000; 27(4): 327-329.] .It is possible that the distal FFR was low but this is not proof of ischaemia and is a test that has not been validated. This may be why she had a negative stress ECG despite "steal" from her LAD.

Response: Thank you very much for your critical comment. Our previous manuscript had illustrated that steal phenomenon aroused from CPFs was controversial. And we had cited the reference you mentioned in our discussion session (Page 6, Lines 12-20; Page 10, Reference 12). Also, the view of Angelini et al. was challenged by the recent reports. Please see the following studies: Härle et al. Clin Res Cardiol 2012;101:313-15 And Kinuya K. 2001;15:442 (Page 6, Lines 21-23). It is well known that stress ECG plays a role in the evaluation of myocardial ischemia. But in the clinical practice, a negative stress ECG is unable to rule out the patient with or without ischemia absolutely.

Reviewer #3:

Comments: This article is a case report who had FFR measurement of coronary fistula. FFR measurement may be one of options to measure steal phenomenon but important thing to treat CAF is to rescue myocardial ischemia. Should not focus only on FFR.

Response: Thank you for your thoughtful suggestion. We agree with your point that FFR measurement may be one of options to measure steal phenomenon but important thing to treat CAF is to rescue myocardial ischemia. Should not focus only on FFR. We just introduced a new tool to assess the hemodynamic significance of coronary artery fistulas and help us to make a decision. If the CPFs had no significant hemodynamic unbalance, maybe we can adopt a wait-and-see strategy. It is useful to reduce the burden of medical care and patient's psychological stress.

Reviewer #4:

Comments: Bilateral coronary-pulmonary fistula is relatively rare; however, using FFR to assess the hemodynamic significance of CPFs have been reported widely:

Response: Thank you for your comment. The role of FFR had been report in the previous few studies. And we had cited one of the references you mentioned in our first manuscript (Page10, Reference 14). Limited to the magazine requirement, we can not cite the remaining two references. We report the application of FFR in our case in order to supply some message about
the option of treatment strategy of CAFs because it lacks prospective large scale control studies at present.

Reviewer #5:

Comments: It reads well although some English editing would be advisable. I would also add the screens of the FFR pre and post the occlusion of the fistula. Did you also consider the use of non hyperhemic indexes?

Response: Thank you for your suggestion. We had resort to the English language editing service and rewriting the manuscript. And we add the screens of the FFR pre and post the occlusion of the fistula based on your suggestion. Please see the Figure 2 (Page 4, Line18). We can not fully understand the word “hyperhemic”. Did you mean that treadmill testing. The patient had a negative stress ECG.

Reviewer #6:

Comments: This is a very interesting case, and nicley performed procedure and literature review. It should be mentioned that FFR is measuring pressure gradients and not flow, and as such pressure is a surrogate for flow. It would be very instructive if pulmonary artery pressures were measured during adenosine administration

Response: Thank you for your thoughtful suggestion. We completely agree with your view that FFR is measuring pressure gradients and not flow, and as such pressure is a surrogate for flow. We will consider your advice that pulmonary artery pressures were measured during adenosine administration in future study.

We appreciate for Editors/Reviewers’ warm work earnestly, and hope that the revised manuscript is acceptable for publication in your journal. Once again, thank you very much for your comments and suggestions.

Looking forward to hearing from you.

With best regards,

Yours sincerely’

Shaodong, Ye, MD