Author's response to reviews

**Title:** Isolation and Culture of Smooth Muscle Cells from Human Acute Type A Aortic Dissection

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**Author's response to reviews:** see over
Authors’ Response to the Reviewers’ Comments

Reviewer's report 1#
Title: Isolation and Culture of Smooth Muscle Cells from Human Acute Type A Aortic Dissection
Version: 1 Date: 3 July 2012
Reviewer: song xue
Reviewer's report:
Isolation and culture of SMCs from human aortic tissue obtained during surgery was accomplished by the team.
The method of isolation and culture have been described in details.
Data and photos seem well under control with convincing results.
Discussion and conclusion only confine to the extent of isolation and culture method. There is no comparison with normal aortic specimen from patients undergoing surgery not for aortic dissection. There are a lot of changes in genes and proteins expression in the process of aortic dissection, yet no relevant information and discussion appeared.
Answer: We agree with the reviewer’s comments. It will greatly improve our manuscript, if we can get the SMCs from the healthy people and make some comparisons between them. However, it is quite difficult for us to get the healthy ascending vascular grafts to isolate the SMCs. The reasonable way to get the normal human SMCs is from the healthy brain death people. But it is quite difficult. Additionally, We also believe that there are a lot of changes in genes and proteins expression in the process of aortic dissection. This is also the reason that we want to culture the SMCs from the aortic dissection tissues and do some further research about their SMCs. Thanks for the reviewer’s suggestion. We will try to get some normal human SMCs in our further study.
Language and writing are understandable revision of English language should be helpful.
Answer: We agree with the reviewer’s suggestion. We have invited a specialist whose mother language is English to make a critical revision for our manuscript.
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
Answer: We agree with your suggestion. We have done accordingly.
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:
'I declare that I have no competing interests'

Reviewer's report 2#
Title: Isolation and Culture of Smooth Muscle Cells from Human Acute Type A Aortic Dissection
Version: 1 Date: 3 February 2013
Reviewer: Xiao-Jun Prof. Du
Reviewer's report:
In this paper Lu et al described an improved method for primary culture of human aortic vessel SMCs. Importantly, they obtained human vessel tissues from patients with acute type-A aortic dissection, a potentially lethal conditions. They also characterized features of SMC using methods
including FACS and immunofluorescence. This method should be useful for investigating their hypothesis that SMC malfunction contributes to the pathogenesis of aortic dissection. This reviewer appreciates the great effort by the authors in tissue collection and conducting this study. The paper is in general clearly written and the quality of images is good.

Major comments:

1. Obviously, demonstration of phenotype of SMC from patients with aortic dissection also depends on establishment of cells from healthy control subjects. Apparently this paper does not contain results from healthy controls and therefore comparison was not possible. I fully appreciate the difficulty of obtaining aortic tissues from healthy subjects. However, establishment of the method would facilitate the process when such an opportunity comes. This view may worth to be mentioned in the MS.

   **Answer:** We agree with the reviewer’s opinion that the healthy control SMCs is worthwhile to our study. But it is quite difficult to get some normal human SMCs. The reviewer’s view has been mentioned in the section of discussion.

2. It is not clear from how many patients did aortic tissues collected but I guess that samples were collected from several patients. If this is the case, then please consider to compare among subjects on similarity and variation of cell phenotypes. A summary table of indices measured from different individual would be interesting.

   **Answer:** Related clinical data has been added in the MS. Theses results have also been discussed.

3. In a few places, description of details was made using non-precise language. For instance, cellular confluence should be given as percentage rather than “a little confluence”. When you count positive cells, please give total numbers of cells counted.

   **Answer:** The language has been critically revised.

Minor comments:

1. Have you compared proliferation rate of cell passages? Such information should be interesting.

   **Answer:** We feel sorry that we did not do some comparisons of proliferation rate of cell passages. In fact, we found that these primary SMCs just could be passaged for about two times. When passaged to P3, the cells did not grow well.

2. There are some language errors that need to be eliminated in the revised version.

   **Answer:** Agree. We have made a critical revision for our manuscript.

Level of interest: An article of importance in its field

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

**Answer:** Done.

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

None to declare.