Reviewer’s report

Title: Fluid upstream shear stress of rabbit aortic stenosis inhibits neointimal hyperplasia by promoting endothelialization after balloon injury

Version: 0 Date: 07 Jul 2017

Reviewer: Giorgio Aquila

Reviewer's report:

The authors of this study sought to explore the effects of changed low and oscillatory shear stress (SS), in a rabbit model of partial abdominal aortic constriction, upon the neointimal hyperplasia and vascular remodeling after balloon injury. They found that the upstream SS of stenosis, not downstream SS, inhibits the neointimal hyperplasia after balloon injury by promoting vascular re-endothelialization.

This reviewer has the following major concerns.

1) The authors should report hemodynamic assessments to confirm changing of vascular SS after partial abdominal aortic constriction (e.g. Poiseuille formula). These measurements are necessary to confirm the model of changed SS.

2) The authors may report measurements (in Figures 3-7) of a normal vessel

3) Error bars are lacking in Figures 5-7

4) The authors should extensively revised the p-value reported in the main manuscript. Moreover some data reported are not correct (e.g. check line 183)

5) Data regarding the neointimal hyperplasia in group IID should be clarified and better discussed

6) Figure 8 and 9 are lacking. Data regarding Figure 8 cannot be evaluated by this reviewer

7) English form needs to be extensively revised and conclusion should be more focused on data obtained

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.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Unable to assess

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

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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