Reviewer’s report

Title: High shear stress suppresses proliferation and migration but promotes apoptosis of endothelial cells co-cultured with vascular smooth muscle cells via down-regulating MAPK pathway

Version: 0 Date: 31 May 2019

Reviewer: Mate Petricevic

Reviewer's report:

Dear authors,

thank you for submitting the article "Higher shear stress alleviates neointimal hyperplasia through regulating proliferation, apoptosis and migration of endothelial cells via ERK1/2 and p38 pathways" to the Journal of Cardiothoracic Surgery. I ws pleased to receive it as a reviewer.

Objectives of the paper and importance of the research question:
The research question is relevant.

Abstract/Background: Authors should not refer to their former research is abstract. rather they should be focused on the background of their research, what is known and how their current study adds to the current knowledge.

Methods:

Primary endothelial and vascular smooth muscle cells derived from porcine great saphenous vein were collected and co-cultured under different levels of shear stress using Parallel-Plate Flow Chamber system. Cell proliferation, apoptosis and migration of ECs in a co-culture system were detected by 4,5-dimethyl-2-thiazoyl (MTT) assay and bromodeoxyuridine (BrdU) assay, fluorescent-activated cell sorting (FACS), and Transwell assay, respectively.

In general, the experimental setting is reasonable and I have no major objections to the methods performed.

Results:

Put briefly, under higher level of shear stress condition, cell proliferation and migration of ECs were suppressed, while cell apoptosis was promoted. These results are interesting and may have some implications to the clinical arena.

Conclusion:

Conclusion is grounded on the results and there is a logical sequence. However, given the fact this is translational research I would recommend authors to stress that out clearly so these results may serve just as an impetus for further studies.
Level of interest
Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

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

Needs some language corrections before being published

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