Reviewer’s report

Title Investigating the physiology of normothermic ex vivo heart perfusion in an isolated slaughterhouse porcine model used for device testing and training

Version: 0 Date: 23 Apr 2019

Reviewer: Ali Ghodsizad

Reviewer's report:

Kappler and colleagues are reporting on their experience with normothermic perfusion of porcine hearts. The manuscript deals with a very important topic. The authors have excellent data but they completely get lost in a manner of reporting too much details.

The conclusion of the abstract does not reflect all relevant facts in summary.

Introduction

Please mention the only CE and about to be FDA approved clinical model for human ex vivo device Transmedics. It is important to mention because that device never found its way to be used in a working mode.

We strongly advise to add following citation:

Ex vivo coronary angiography of a donor heart in the organ care system.

Ghodsizad A, Bordel V, Ungerer M, Karck M, Bekeredjian R, Ruhparwar A.


and paper by Simon Messer JHLT on DCD heart tx

Also please add on following items

Please mention why you decided to go with St Thomas solution
Metabolic panel data should be presented in a diagram, Figures 6 to 8 should be summarized

Please refer to the pig anatomy and differences to human anatomy

How did you protect the coronary sinus as venous branches drain into it in pigs

Please comment the fact that animals were killed by electric shock, do you expect an effect on the physiology of cardiomyocytes?

Did you give the animals heparin before the cardiac arrest?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

Yes

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 recommend additional statistical review

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

Acceptable
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

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