Reviewer’s report

Title: Total resuscitative endovascular balloon occlusion of the aorta causes inflammatory activation and organ damage within 30 minutes of occlusion in normovolemic pigs

Version: 0 Date: 03 Jan 2020

Reviewer: Lucas P. Neff

Reviewer's report:

The author group has extensive experience with translational models of aortic occlusion. They leverage this experience to determine the inflammatory profile of aortic occlusion various time points ranging from 15 minutes to up to one hour. They are careful to note that many of the effects of injury and hemorrhage can lead to different degrees of hypoperfusion and reperfusion. In this light, understanding the inflammatory response of aortic occlusion in isolation is challenging. Therefore, they’ve decided to use a normovolemic model of aortic occlusion with a reperfusion washout phase that was very regimented with respect to resuscitation adjuncts used.

Predictably, they demonstrated that the initial increases in blood pressure heart rate and cardiac output start to diminish over time. Also, the animals that receive longer periods of occlusion demonstrate increasing metabolic demands and acidosis in a dose-dependent relationship with occlusion.

The study design was well designed and the authors' extensive understanding of appropriate physiologic and biochemical monitoring is on full display. The results are steady clearly. More importantly, they are not overstated. They were very intentional about the use of normovolemia in an effort to understand the consequences of aortic occlusion in isolation. I have no major suggestions for revision of the text. One minor suggestion would be to expand the implications of this study in terms of partial occlusion techniques.

The tables and figures are clear to read and are well laid out. The methods are easy to understand and would lend him selves to reproducibility.

---

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.

Yes

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 am able to assess the statistics

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:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organisation that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal