Reviewer's report

Title: An ex-vivo quantitative assessment to determine the optimal aortotomy closure technique

Version: 2 Date: 7 June 2015

Reviewer: Mauro Iafrancesco

Reviewer's report:

Article assessment

Many thanks for asking me to review this paper entitled “An ex-vivo quantitative assessment to determine the optimal aortotomy closure technique”.

The Authors took a very interesting approach, devising an experimental model to assess three different aortotomy closure techniques in order to determine the superiority of one over the others.

The manuscript is well written. Analysis is accurate and conclusions clearly illustrated. Limitations regarding the use of a non-pulsatile flow, saline solution instead of blood and dead tissue are clearly identified. Even with these limitations, the experiment is well designed and conducted and may represent the basis for further investigations on this subject.

Major Compulsory Revisions

None

Minor Essential Revisions

In the Results, the Authors report significant difference in mean leakage rates analyzed with Welch-ANOVA. With only ten cases for every group, the use of a non-parametric test seems clearly more appropriate than the use of a parametric test. However they report the mean values of the leakage rates rather than the median values. Giving the small number of cases, it would be preferable to use the median values to describe the leakage rates of the three groups. In this setting, an analysis of variance assumes little importance, as the use of non-parametric test should be preferred in view of the limited number of cases

Discretionary Revisions

None

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

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? No

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? No

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript? Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript? No

4. Do you have any other financial competing interests? No

5. Do you have any non-financial competing interests in relation to this paper? No