Author’s response to reviews

Title: Miniaturized Cardiopulmonary Bypass: The Hammersmith Technique

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Author’s response to reviews: see over
Dear Vipin,

Thank you very much for taking into consideration our manuscript titled “Miniaturized Cardiopulmonary Bypass: The Hammersmith Technique”.

Please see below our responses to the reviewers concerns and requests.

I look forward to hearing from you.

Best wishes,
Gianni

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Reply to the reviewer’s

Reviewer 1

The format of the study is not reported. Definitively, this paper is not a study, but only a report of what the Authors do.

We entirely agree with this reviewer that our paper is not a study trying to make any comparison whatsoever between mini CPB or conventional CPB. It is indeed a descriptive paper of a methodology which has been developed in our institution and what we report are just the results of our experience.

In the “Results” paragraph the conclusions are included and there is also part of the discussion.

What we have reported in the results are not conclusions but a summary of our experience which contains useful technical information on how the system should be used for anybody who may want to adopt it. The reason why we have reported the comment on reference 8 in the results, is to explain some of the points which we are trying to raise in relation to the patient prime interaction and antegrade and retrograde autologous priming. If the editor really feels that this should be part of the discussion we are happy to move it. Our intention was to give a more specific explanation to something which is a technical point and therefore more relevant into the results section.

Fig 2 and 3 show data from conventional CPB, but nothing is said about any patient who had cCPB and it is not indicated where data were taken from.
Figures 2 and 3 are not an attempt to establish the benefit or superiority of one technique or the other but simply an example of how haematocrit stabilisation is affected by either technique. These were 2 random cases representative of behaviour when patients are done with mini or conventional CPB.

Reviewer 2

Patients’ detail characteristics preoperative should be described in a table.

We thank the reviewer for his kind comments. We are happy to provide a table with pre-operative patient characteristics; however, we think that this is not really necessary since we have already detailed the type of procedures which were carried out using the mini CPB system. If the editor wishes us to add such a table we would be happy to do that.

Figure 1 is incomplete which influence we realize the whole Hammersmith mCPB system.

We are not quite sure what this reviewer means when suggesting figure 1 is incomplete. We think the figure is self-explanatory and contains all the points which have been raised in the text.

This paper only compare the difference between mCPB and cCPB, we do not know advantages of ‘Hammersmith’ mCPB techniques compare to other mCPB techniques.

The paper does not compare mini CPB with conventional CPB. As already discussed above our main objective was simply to describe the Hammersmith mini CPB system and report the results using this technique. We have made no attempt to compare this with conventional CPB.

The method of venous collapse pressure measurements is not mentioned.

We run a pressure isolator from the venous line that is connected to an electrical pressure monitor on the heart lung machine. This monitoring provides us with a digital readout of the pressure in the venous line. This has been added to the text.

The patient’s preoperative, operative and postoperative characteristics in Table 4 have no control group and the same characteristics should be analysed in cCPB group. Otherwise we do not know which the advantage result of Hammersmith mCPB come from.
The reviewer is correct there is no control group as we had no intention whatsoever to compare our mini CPB series with conventional CPB group. We have not claimed at any stage that there is any advantage by the use of Hammersmith mini CPB system. We have simply reported our technique and the experience and the results associated with it.

Reviewer 3

It would be useful if authors could add a paragraph to detail the clinical advantages of this technique over the standard cardiopulmonary bypass as used by the same operator. Was the mortality different when the operating author used this technique as compared to the conventional bypass? Were the rates of stroke, renal failure, reoperation or transfusion better, worse or same? If there were no measurable clinical benefits, does the author see the benefit of this technique purely in economic terms?

We thank the reviewer for his kind comments. Regarding the possibility of adding a paragraph to the details of the clinical advantages of this technique over conventional cardiopulmonary bypass we feel that this is not appropriate since as we have highlighted above our paper describes a technique and gives useful hints to how this can be adopted by other groups. We had no intention whatsoever at any stage to make a comparison. We think a proper comparison could only be made in the context of a prospective randomised study which is at present planned in our institution.

I hope this information answers the useful comments from the reviewers and we look forward to hearing from you.

Best wishes

Gianni Angelini