Reviewer's report

Title: Miniaturized Cardiopulmonary Bypass: The Hammersmith Technique

Version: 1 Date: 28 April 2013

Reviewer: Pankaj Kaul

Reviewer's report:

The authors describe 184 consecutive open heart operations using miniaturised cardiopulmonary bypass technique using standard components including controlled negative pressure venous drainage, patient-specific venous collapse pressure, venous air removal device, centrifugal pump, oxygenator with a higher gas exchange to foreign surface area, optional soft-shell reservoir in parallel, etc. The overall results are excellent with 1.1% mortality, 0.5% stroke, 1.6% renal failure and 1.1% reoperation. Transfusion rate is less than 9% and other postop complications are unremarkable.

It is a well-written paper and the technique is safe in author’s hands as is shown by low mortality and morbidity. The authors also seem to have in place a programme to gradually expose the perfusionists and surgeons who want to adapt the technique.

Major Compulsory Revisions: None

Minor Essential Revisions: None

Discretionary Revisions: 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?

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:

I declare that I have no competing interests.