To the Editor-in-Chief
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MS number: 9630436021200506
Mechanisms of pulmonary dysfunction after on-pump and off-pump cardiac surgery: a prospective cohort study.

Amsterdam, January 8, 2007

Der Dr Zamvar,

Thank you for commenting on above manuscript. We have revised the paper according to suggestions and can offer the following point-by-point reply:

1. A retrospective power analysis (now included in the paper) on a main outcome variable (PLI) yields that the difference in favor of CPB surgery (which was contrary to the a priori hypothesis that the PLI is more elevated because of pump perfusion in CBP than off-pump surgery) to become statistically significant (at 80% power) would have required >90 patients per group, which would taken years to do. Similarly, although, because of the small number of patients involved we cannot exclude more often (partially pleurotomy-associated) atelectasis after off pump than on pump surgery, our results again do not suggest that the pump perfusion itself (associated with non ventilated lungs) was the main factor involved. We nevertheless did a post hoc power analysis (included) to show that >320 patients in each group would have been necessary to include to yield a statistically significant difference at 80% power. We have clearly stated the limitations of the study and otherwise agree with the reviewer that comparability of groups is limited because of more differences than the use of CPB.

2. Central venous blood is used when pulmonary artery blood was unavailable (no PA catheter, n=3)

3. Clarified.


5. Duration of CPB and COPD: now included.

6. CPB used throughout now.

7. We agree and have rephrased the demands/temperature/VO2 issues.

8. Since we excluded patients with high filling pressures, hypovolemia in some patients cannot be excluded. We do not feel that this invalidates our results.

We hopefully addressed the issues adequately, so that the paper may now be suitable for publication,

Sincerely yours,

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