Author's response to reviews

Title: The Effect of Ventricular Assist Devices on Cerebral Autoregulation: a preliminary Study

Authors:

Judith Bellapart (30489jbr@comb.es)
Gregory Chan (gregchan@unsw.edu.au)
Yu-Chieh Tzeng (shieak.tzeng@otago.ac.nz)
Philip Ainsley (Philip.inslie@ubc.ca)
Adrian G Barnett (a.barnett@qut.edu.au)
Kimble R Dunster (k.dunster@qut.edu.au)
Rob Boots (r.boots@mailbox.eq.edu.au)
John F Fraser (j.fraser@uq.edu.au)

Version: 3 Date: 2 February 2011

Author's response to reviews: see over
2nd February 2011

To the Editor-in-chief of BMC Anesthesiology Journal

RE: The Effect of Ventricular Assist Devices on Cerebral Autoregulation: a Preliminary Study

We write in response to the recommended modifications received on the 17th January 2011.

We thank the reviewers for their time, input and willingness to review for second time this article. We agree with the comments made by the reviewers and hope we have altered them sufficiently that it meets their approval.

Please find attached the modified manuscript (with tracked changes as requested) and the answers to the reviewers’ requests.

Yours Sincerely

Dr Judith Bellapart

MD, ESICM, JFICM

Intensive care Specialist

Royal Brisbane Women Hospital

Herston, Brisbane, QLD 4029, Australia
Response to reviewer 1 (Matthias Reinhard)

We thank the reviewer for his constructive comments. We believe we have addressed all issues raised in our revised manuscript.

“Abstract conclusions do not match the more cautious conclusions of Discussion.”

Reply: The abstract conclusions were modified to match with the more cautious conclusions in Discussion.

“p. 8, last line: Determination of the cross-sectional area of an intracranial artery (e.g. MCA) by transcranial colour-coded or power mode ultrasound: there is no reliable direct measurement of e.g. MCA diameter changes by colour or power duplex imaging. If the authors disagree then please cite an appropriate study. Otherwise simply leave this sentence out.”

Reply: The sentences were deleted accordingly.

“Table 2: please indicate that mean CBFV values are given.”

Reply: Done.

“Table 3 in the present pdf version is not readable.”

Reply: The table was modified accordingly.
The Effect of Ventricular Assist Devices on Cerebral Autoregulation: an Observational Study

Response to reviewer 2 (Rong Zhang)

“I’m disappointed to read this revision. The authors did not respond well to my previous comments.”

Reply: We deeply apologized for the lack of depth in our previous revision due to the authors’ inability to commit sufficient time to the manuscript during that period. We truly believed the reviewer’s comments were beneficial to the improvement of the manuscript, and had made the changes required in this version to fully address the reviewer’s concerns. We also would like to thank the reviewer for giving us a second chance to make the essential amendments.

“1. Spectral power in each of frequency ranges for controls and patients with VAD still was not presented. Table 3 of this revision is not readable.”

Reply: The spectral powers of MAP and CBFV for all the frequency ranges were presented in the newly added table 3. Table 4 (previously the unreadable table 3) was modified accordingly. We apologized for this mistake made.

“2. Changes in coherence observed in VAD most likely reflect influences of BP spectral power on the estimation of coherence function which may not reflect changes in autoregulation when transfer function gain and phase remained unchanged.”

Reply: We fully agree with the reviewer, and thank him for raising this important point. We have modified the Abstract, Discussion (paragraph 2 and 3) and Conclusion accordingly.

“Page 10, the term “inverse” used to explain changes in coherence should be removed.”
Reply: Sentence was modified accordingly (Methods under Spectral analysis).

“Page 15, the discussion of “mean negative value among controls” needs to be reconsidered as pointed out in my previous comment. A positive rather than negative phase between changes in BP and CBF velocity would indicate changes in CBF velocity lead changes in BP. In addition, phase calculation in the very low frequency range based on spontaneous changes most likely is unreliable when coherence is low. The reported negative phase cited in reference 28 most likely is a mistake.”

Reply: Incorrect statements and citations made in relation to phase interpretation have been deleted from Discussion. The point that TFA parameters may be unreliable with low coherence has been added to Discussion paragraph 3.

“References 21 and 27 are the same.”

Reply: We apologized for the mistake made, and made the required correction.