Reviewer's report

Title: The Effect of Ventricular Assist Devices on Cerebral Autoregulation: an Observational Study

Version: 2 Date: 29 December 2010

Reviewer: Rong Zhang

Reviewer's report:

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

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.

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.

Specific comments:

Page 10, the term “inverse” used to explain changes in coherence should be removed.

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.

References 21 and 27 are the same.

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.