Reviewer’s report

Title: Characterization of exercise limitations by evaluating individual cardiac output patterns: a prospective cohort study in patients with chronic heart failure

Version: 1 Date: 17 March 2015

Reviewer: Barbro Kjellström

Reviewer’s report:

First let me congratulate the authors to a very nice study and well written manuscript. When a reviewer have the time and energy to comment minor spelling and punctuation errors, it is a compliment to the authors.

Major Compulsory Revisions

Abstract – please revise last sentence in the conclusion. The idea of tailored therapy has not been studied

Methods, line 133 – 134. It is unclear to me what the authors mean by “A central exercise limitation was defined as a plateau or decline in Q from 90-100% of exercise time”. Please be clearer in this description

Results, line 160. Is peak VO2 here same as in Table 1 or is Table one max VO2. The SD differ. Please clarify in Table 1 what is measured.

Results, line 173. Do the authors mean “…differ between groups…”

Table 2 – please add Atrial fibrillation, Resting HR, Mitral regurgitation

Table 2 – show percent for gender (e.g. percent male), Ethiology, NYHA class to help the author interpret results

Table 2 – variable Plateau/decrease in VO2. In results only decrease in VO2 is mentioned, please correct one of the places

Minor Essential Revisions

Methods, first paragraph, first sentence, please add the Netherlands after Maxima Medical Centre

Methods first paragraph, last sentence, please add that “prior to the study” at the end of the sentence

Methods, line 134. Chronotropic incompetence is abbreviated as CI, please avoid this abbreviation in a hemodynamic paper as it is an accepted abbreviation for Cardiac Index and is confusing when reported in results and in discussion.

Results line 152, should be Thirty-four

Discussion, line 192. Do not agree that the results of heart transplant is affected
by the results in this study – despite the explanation later on (line 246-8)

Figures 1-2. To make the reported results more visible to the reader I suggest to show four panels;
1) Group: Increase in Q – show average and SD on top of individual values for VO2
2) Group: Increase in Q – show average and SD on top of individual values for Q
3) Group: Plateau/decrease in Q – show average and SD on top of individual values for VO2
4) Group: Plateau/decrease in Q – show average and SD on top of individual values for VO2

**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'