This item is the archived peer-reviewed author-version of:

Response to letter to the editor : Exercise oscillatory ventilation : perfusion abnormality in heart failure

Reference:

Cornelis Justien, Taeymans Jan, Hens Wendy, Beckers Paul, Vrints Christiaan, Vissers Dirk.- Response to letter to the editor : Exercise oscillatory ventilation : perfusion abnormality in heart failure
International journal of cardiology - ISSN 0167-5273 - 187(2015), p. 103
DOI: <http://dx.doi.org/doi:10.1016/j.ijcard.2015.03.295>

Accepted Manuscript

Response to letter to the editor: “Exercise oscillatory ventilation – perfusion abnormality in heart failure.”

Justien Cornelis, Jan Taeymans, Wendy Hens, Paul Beckers, Christiaan Vrints, Dirk Vissers

PII: S0167-5273(15)00535-5
DOI: doi: [10.1016/j.ijcard.2015.03.295](https://doi.org/10.1016/j.ijcard.2015.03.295)
Reference: IJCA 20060

To appear in: *International Journal of Cardiology*

Received date: 10 March 2015

Accepted date: 19 March 2015

Please cite this article as: Cornelis Justien, Taeymans Jan, Hens Wendy, Beckers Paul, Vrints Christiaan, Vissers Dirk, Response to letter to the editor: “Exercise oscillatory ventilation – perfusion abnormality in heart failure.”, *International Journal of Cardiology* (2015), doi: [10.1016/j.ijcard.2015.03.295](https://doi.org/10.1016/j.ijcard.2015.03.295)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

. Response to letter to the editor: “Exercise oscillatory ventilation – perfusion abnormality in heart failure.”

Justien Cornelis^{a,1}, Jan Taeymans^{a,b,c,1}, Wendy Hens^{a,1}, Paul Beckers^{a,d,e,1}, Christiaan Vrints^{d,e,1}, Dirk Vissers^{a,1}

- a) University of Antwerp (Faculty of Medicine and Health Sciences), Department of Rehabilitation Sciences and Physiotherapy, Universiteitsplein 1, CDE S0.22, B-2610 Wilrijk, Belgium.
- b) Bern University of Applied Sciences (Health), Murtenstrasse 10, CH-3008 Bern, Switzerland.
- c) Vrije Universiteit Brussel (Faculty of Physical Education and Physical Therapy), Pleinlaan2, B-1050 Elsene, Belgium.
- d) Antwerp University Hospital (Department of Cardiology), Wilrijkstraat 10, B-2650 Edegem, Belgium.
- e) University of Antwerp (Faculty of Medicine and Health Sciences), Department of Medicine, Universiteitsplein 1, B-2610 Wilrijk, Belgium.

1. “This author takes responsibility for all aspects of the reliability and freedom from bias of the data presented and their discussed interpretation”.

Response on article with manuscript number: IJC-D-15-00745

Corresponding author: Justien Cornelis, University of Antwerp, Faculty of Medicine and Health Sciences, CDE S0.22, Universiteitsplein 1, 2610 Wilrijk, Belgium. Email: Justien.Cornelis@uantwerpen.be; Phone: +32475834741; Fax: +3232652501

Acknowledgment: None

Conflicts of interest: None

Keywords: heart failure; exercise oscillatory ventilation; periodic breathing

Dear Editor,

We are pleased to have the opportunity to respond to the letter to the editor from Kisaka et al. regarding our recent publication[1]. We will attempt to address the issue raised in this letter.

First of all, we would like to thank the authors for their keen eye on the reported data. We confirm and agree that a typo is made in table 3 of the article[1] concerning the aetiology of the exercise oscillatory ventilation (EOV) presenting population, accounting for 20 patients. However, the data reported in table 4, concerning the aetiology of the EOV non-presenting population accounting for 26 patients, was correctly presented. As suggested in the letter, the valuable for “aetiology ischemic (%)” should be 0% instead of 100% in table 3 in relation to the study of Matsuki et al.[2]. Indeed, this changes the median from 55.3% to 54.1%. We agree with Kisaka et al. that this minor adjustment of 1,2% doesn't change the suggestion that both ischemic as well as non-ischemic patients with heart failure (HF) are at equally risk to develop exercise oscillatory ventilation (EOV). As stated by Kisaka et al., we also agree that this correction does not change the global results of our review and meta-analysis nor does it change the discussion, as it was not our intention to discuss the pathophysiology of EOV as such. Instead, we opted to deliver warning signs in order to emphasize the importance of EOV recognition in clinical practice. As reported in the limitations[1], we did not meta-analyse all the abundant descriptive and clinical test parameters reported in the included articles. Instead, we chose to meta-analyse the important prognostic cardiopulmonary exercise test markers stated in literature[3] in order to point out the importance of including EOV in assessment batteries. Furthermore, we meta-regressed the effect of the left ventricular ejection fraction (LVEF) on EOV because studies often categorize patients with HF based on LVEF, while HF aetiology is often mentioned as descriptive parameter in the included studies unless especially investigated. Therefore, it is possible, although not assessed in our study, that other descriptive parameters such as age, gender and body mass index could significantly influence EOV. Moreover, we conducted a sub-group analysis of the definitions for EOV and modes of protocol in order to state the influence of these variables and in order to point out the high heterogeneity in data analysis concerning the assessment of EOV. In our opinion and based on our meta-analysis, defining and assessing EOV in a standardized way is mandatory.

References

1. Cornelis J, Taeymans J, Hens W, Beckers P, Vrints C, Vissers D (2015) Prognostic respiratory parameters in heart failure patients with and without exercise oscillatory ventilation — A systematic review and descriptive meta-analysis. *International journal of cardiology* 182 (0):476-486. doi:<http://dx.doi.org/10.1016/j.ijcard.2015.01.029>
2. Matsuki R, Kisaka T, Ozono R, Kinoshita H, Sada Y, Oda N, Hidaka T, Tashiro N, Takahashi M, Sekikawa K, Ito Y, Kimura H, Hamada H, Kihara Y (2013) Characteristics of patients with severe heart failure exhibiting exercise oscillatory ventilation. *Clinical and experimental hypertension* 35 (4):267-272. doi:10.3109/10641963.2013.780071
3. Cahalin LP, Chase P, Arena R, Myers J, Bensimhon D, Peberdy MA, Ashley E, West E, Forman DE, Pinkstaff S, Lavie CJ, Guazzi M (2013) A meta-analysis of the prognostic significance of cardiopulmonary exercise testing in patients with heart failure. *Heart failure reviews* 18 (1):79-94. doi:10.1007/s10741-012-9332-0