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Letter by Cornelis et al. regarding article, "Exercise oscillatory ventilation in heart failure"

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To the Editor:

We are elated to read the article written by Corrà [1] concerning exercise oscillatory ventilation (EOV) in heart failure (HF). This review provides a comprehensive resume of a highly prognostic pathophysiological phenomenon [2].

It is correct to draw the attention towards the wide variability of EOV and the lack of a gold standard definition. The extensive amount of (modified) definitions and methods to assess EOV was outlined in a recent review [3]. The manual or visual interpretation of the oscillatory pattern, which is conveniently applied in clinical practise, could imply risk of bias. Moreover, it was accurately illustrated that very few authors adopt the EOV definition as recommended by the European and American Guidelines [4]. However, at the moment we wrote the review [3] it appeared to us how difficult it was to interpret the various definitions precisely. Therefore we are delighted that Corrà [1] provided more details towards the appraisal of the cyclic amplitude and duration. However, it is still unclear how ≥15% of the average resting value is calculated since it was not visualized in the figure. This is elementary to obtain the correct amplitude size. It is also questionable whether based on the underlying mechanisms of EOV, assessing amplitudes during rest can be related to the real EOV pattern. When referring to the EOV figure, it is not clear how the data were averaged seeing that a rather smooth curve was illustrated. We also noticed that the cyclic length in the figure is approximately 40 s, which is the same as we determined in our data. Therefore, a cycle length between 40 s and 140 s seems to be a rather wide interval to use as criterion to estimate EOV, as already suggested in an earlier proposed definition [5].

It has been shown that EOV is usually associated with an advanced or aggravated disease condition and moreover some specific patients' characteristics were already outlined [2]. It could of course be interesting to assess multiple other characteristics to predict in which patients EOV could appear. In fact, EOV could be seen as very important marker in the selection process for heart transplantation. Therefore, it is extremely valuable that EOV is assessed at all time in a standardized automatic manner during a cardiopulmonary exercise test (CPET). In our opinion, it is therefore mandatory to correctly computerize this assessment and to validate this developed graphical user interface in a wide population in the near future. Automated investigation of the different definitions together with the current applied manual calculation in a general population will allow us to propose a gold standard definition in the future.

Conflicts of interest

None.

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