Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editor

Exercise ventilatory inefficiency may be a relevant CPET-feature in COVID-19 survivors

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Follow-up

Dear Editor

We read with great interest the article by Clavario et al. [1] concerning the application of the cardiopulmonary exercise testing (CPET) in a large cohort of COVID-19 patients at 3 months follow-up. Reading CPET variables, we note that the authors do not report data about ventilatory limitation, although values of ventilatory equivalent for carbon dioxide (V_E/V_{CO2}), as described in the methods of the supplementary data, have been determined.

In our pilot study, in post-COVID subjects (6-months follow-up) in which we have excluded baseline confounders (age > 65 years, moderate obesity, chronic respiratory failure or need for oxygen-therapy under exertion, concomitant previous respiratory or non-respiratory diseases), we performed the CPET [2]. Although our 28 subjects had a normal lung function and a preserved maximal exercise capacity, we found that 8 subjects (29%) had exercise ventilatory inefficiency (EV*in*), using the regression equation of $V_E/V_{CO2\ slope}$ for healthy subjects, according to Sun et al. [3]. Moreover, subjects with EV*in* showed a reduction of heart rate (HR) recovery and $V_E/V_{CO2\ slope}$ was inversely correlated with HR recovery. Therefore, we concluded that the exercise ventilatory inefficiency related to lower heart rate recovery may be a sign of systemic alterations present in the post-disease phase of these subjects.

We believe it may be interesting to have some data about the exercise ventilatory inefficiency in a different timing and in a larger cohort of post-COVID survivors, with also associated comorbidities.

Declaration of Competing Interest

The authors report no relationships that could be construed as a conflict of interest.

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