Safety of the Cardiopulmonary 6-Minute Walk Test

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Cipriano et al[1] studied the safety of the cardiopulmonary 6-minute walk test (6MWT) in pre-heart transplant patients. Based on the clinical and electrocardiographic behavior, the study showed the 6MWT was safe. Two patients presented pre-6MWT arrhythmia that did not worsen during exertion, four presented a significant increase in lactate levels and three interrupted the test due to dyspnea.

However, the 6MWT can be considered of high-intensity for some patients with heart failure (HF)[2]. The discussion regarding the submaximal nature of the 6MWT is not a recent one, as well as the discussion on whether the test is safe for patients with HF2. Guimarães et al[2] observed that at the ergospirometric 6MWT using the Borg scale between 11 and 13 *vs* the 6MWT using the usual recommendations, the mean walked distance was 332 *versus* 470 m, with a VO_2 of 60% *versus* 90% of VO_2 peak, heart rate of 77% *versus* 89% of HRmax and respiratory exchange rate of 0.90 *versus* 1.06.

When comparing the two tests, a statistically significant difference was observed between the assessments. Therefore, considering that the objective of the 6MWT is to be a reflection of the daily activities in this group of patients, the use of the Borg scale during the 6MWT between relatively easy and slightly strenuous, seems to be more adequate and guarantees the safety for such purpose[3,4], in addition to being reproducible and ensuring its submaximal nature[2,5].

Keywords

Safety; walking; exercise.

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Answer

The article by Guimarães et al[2], provided important scientific information on the Six-Minute Walk Test (6MWT), especially regarding the comparison with the "controlled" test and the maximal cardiopulmonary test. We believe that our article[1] has provided additional and scientifically relevant information regarding the intensity and safety, as it pioneered the use of lactate levels and electrocardiography results online by telemetry, respectively, during the 6MWT.

The study by Belardinelli[3] was cited as a reference in our article (Reference #26); however, it described, based on a review study, the occurrence of arrhythmias during an exercise program aiming at physical fitness and not during an exercise test for cardiorespiratory assessment, such as the 6MWT.

The use of the aforementioned test with the control of intensity (Borg) and the reproducibility were not the objectives of our study[4,5].

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