Cardiopulmonary Exercise Testing in Patients With Heart Failure

A recent issue of the Journal included two articles (1,2) involving cardiopulmonary exercise testing in patients with heart failure. Despite the clinical consequences of this test, there is no standardization of the compilation of results from the raw data. Interestingly, there is a great deal of literature involving the determination of ventilatory threshold but little standardization within or between medical centers regarding the determination of the peak oxygen consumption (VO2) value.

In the de Groote et al. article (1), there are two primary omissions concerning the cardiopulmonary exercise test. First, the peak VE/VCO2 slope is not presented despite evidence that it is the best individual predictor of mortality obtained from the cardiopulmonary exercise test in this patient population (3). In combination with peak VO2, peak VE/VCO2 slope provides additional prognostic information (3,4). Second, the peak respiratory exchange ratio must always be reported alongside the peak VO2. Peak respiratory exchange ratio is valuable because it permits an evaluation of the cardiopulmonary limitation to exercise but also provides prognostic information because exercise tests that are considered to be maximal have greater prognostic ability than those that are submaximal (5–7).

Because ventilatory efficiency is a powerful mortality predictor and the evaluation of cardiopulmonary exercise tests have dramatic consequences, authors, editors, and clinicians must take great care to standardize the evaluation and reporting of cardiopulmonary exercise testing data in patients with heart failure.

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REFERENCES