

Letters to the Editor

The Limitations of the 6-Minute Walk Test as a Measurement Tool in Chronic Heart Failure Patients**Limitaciones de la prueba de marcha de 6 minutos como instrumento de medida en pacientes con insuficiencia cardíaca crónica****To the Editor,**

We read with great interest the manuscript by Enjuanes et al¹ recently published in *Revista Española de Cardiología*. Their work is laudable as they demonstrate the impact of iron deficiency on submaximal exercise capacity in chronic heart failure patients. The results indicate that iron deficiency but not anemia was associated with impaired submaximal exercise capacity and symptomatic functional limitation. Despite the cross-sectional study design, the findings are very interesting but not entirely surprising.

The investigators used the 6-minute walk test (6MWT) instead of the gold standard cardiopulmonary gas exchange exercise test to demonstrate their findings. The appeal of the 6MWT arises from its ease of use, simplicity, and cost-effectiveness.² The authors briefly mention the limitations of the 6MWT. However, given the nature of the study design and the study population, it is important to discuss the limitations of the 6MWT in much greater depth as it is the measurement tool that can influence the results. First and foremost, the results of the 6MWT can be influenced by various factors that are not related to the cardiopulmonary fitness of heart failure patients. Excluding patients unable to perform this test may not entirely eliminate those who are still significantly limited by orthopedic causes and other comorbidities. Changes in the 6MWT often do not predict the outcomes in heart failure patients.³ Although in the past, the 6MWT was shown to have similar predictive value in prognosis as the cardiopulmonary gas exchange exercise test,⁴ this test may not be the best measurement tool to explain or explore the mechanisms underlying poor exercise capacity in chronic heart failure.²

When the 6MWT was used as the dependent variable, New York Heart Association (NYHA) functional classification was removed from the model in this study but a detailed explanation on why this was done would have enabled the readers to appreciate the methodology behind the results. While NYHA stage III–IV was more common with iron deficiency and anemia, a much larger percentage of patients (62%) with impaired iron status were still in NYHA functional classes I and II. The number of patients with NYHA class I substantially decreased in the impaired iron status group compared with the preserved iron status group. Does that mean patients may progress to advanced stages of heart failure at some point after they acquire impaired iron status? From a preventative standpoint, one could extrapolate the results of the

study by Enjuanes et al¹ to treating iron deficiency in patients with NYHA classes I–II to prevent deterioration in exercise capacity as patients in these 2 classes are a much larger group in which the resources should be concentrated to improve functional capacity and quality of life. However, the results do not show that impaired iron status is related to the largest section of patients in the study (NYHA class I and class II). In this regard, we felt that the authors should have discussed the subjectivity of the NYHA classification in further detail in the limitations section of the article.²

Although the investigators did not directly compare the 6MWT distance with NYHA functional class, if it was done, it may have shown the variability of the 6MWT distance with all the NYHA classes.² Therefore, it is important to discuss how well the 6MWT distance correlates with the NYHA functional classification in order to understand the results of this study.² The 6MWT is easy to perform but whether it is an accurate measure in all classes of heart failure patients is a more complex issue. Nevertheless, we commend the authors for exploring this complex topic.

Harsha V. Ganga* and Jennifer Jantz

Division of Cardiology, Providence VA Medical Center, Providence, Rhode Island, United States

* Corresponding author:

E-mail address: Rise126@gmail.com (H.V. Ganga).

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