



LETTER TO THE EDITOR

Ambulatory oxygen: Is the six-minute walk test the best option?

Oxigenoterapia de deambulação: será o teste de 6 minutos de marcha a melhor opção?

Dear Editor,

We have read with great interest the paper recently published by Vieira et al. in the *Portuguese Journal of Pulmonology* about the efficacy and patterns of ambulatory oxygen usage in a university hospital.¹ To determine patterns of ambulatory oxygen (AO) use among patients with COPD and interstitial lung diseases, the authors have studied 37 consecutive adult patients on AO by liquid O₂ for more than 3 months. The acute response to O₂ was evaluated through the standardized 6-minute walk test (6MWT) and the Borg dyspnoea scale during a O₂ pre-intervention trial. In relation to the acute response to O₂ there were significant improvements in the distance walked, in resting SatO₂, in minimal SatO₂, and in percentage of desaturation, independently of the diagnosis. However, acute improvement in 6MWT parameters was not predictive of enhancement of outdoor activities with AO. AO was used for a mean of 4.1 h/day and surprisingly, patients spent fewer hours per day away from home after AO treatment. Moreover, 16% of the patients were not compliant to the prescription, and 54% mentioned side effects.

The ATS Guideline for the 6MWT² have established that the strongest indication for the 6MWT is for measuring the response to medical interventions in patients with moderate to severe heart or lung disease, as a one-time measure of functional status of patients, and as a predictor of morbidity and mortality. The number of meters walked has been accepted as the main variable to be recorded in these situations.³ The paper from Vieira et al.¹ highlights a number of important problems related to 6MWT that we would like to consider.

First of all, it is necessary to say that in this Guideline there is no reference to the role of the 6MWT in the AO prescription. Second, it is very important to take into account that the 6MWT is not as simple as it may seem. Not every walk performed in a hospital in the presence of someone in a white coat is a walk test. In order for the test to be a valid instrument of measurement, it should strictly conform to official guidelines, for reasons of external validity. This

means having a long, quiet corridor, some clearly visible objects to mark the ends of the distance to be covered, adequate safety measures, and a dedicated member of staff (a nurse or doctor) to supervise the tests. It would also require all patients under consideration for portable oxygen therapy to actually undergo 3 walk tests (4, counting the practice walk): a walk at baseline, a walk to titrate oxygen flow, and a walk to evaluate response – this last one preferably taking place on a different day from the first one.⁴ In most cases, however, the only test likely to be performed is the walk to set flow. Third, if oxygen is to be prescribed for patients who are unable to take the walk test because of some contraindication (e.g., angina), the guidelines as they are written will not be followed.⁵ At present, most patients are receiving AO without a prior 6MWT being performed. On the contrary, the public health authorities have established the 6MWT as a prerequisite for the prescription of portable oxygen therapy in an attempt to reduce the cost of domiciliary respiratory therapies. Finally, as the authors have shown, acute improvement in 6MWT parameters was not predictive of enhancement of outdoor activities with AO. So, what can we do?

We daily see many patients who live more comfortably and with less dyspnoea on AO. We do not think probably that the 6MWT is the best tool to test the benefits of AO in our patients. Would a simple walk be enough? A 2-min walk test? Should we guarantee the use of as much oxygen as the patient can take if a chronic respiratory insufficiency⁶ is present? The study by Vieira et al. is of interest for those who prescribe AO in their practice and it underscores the need for further study to identify the type of patient who will truly benefit from such therapy.

References

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