



The aerobic capacity in patients with antisynthetase syndrome and dermatomyositis

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BACKGROUND

Systemic autoimmune myopathies (SAMs) are a group of rare systemic autoimmune diseases that are characterized by progressive proximal muscle weakness of limbs, such as dermatomyositis (DM) and antisynthetase syndrome (ASS). Patients with SAMs have a high prevalence of cardiovascular diseases (CVD) and their risk factors, besides presenting a high sedentary behavior index which may result in a reduction in aerobic capacity. Consequently, leading to an increase in mortality in this population. Therefore, the aim of this study was to evaluate the aerobic capacity of patients with ASS and DM, in addition to assessing the possible risk factors for CVD.

MATERIALS AND METHODS

The study was a cross-sectional single-center study that assessed the aerobic capacity of 22 women (13 DM and 9 ASS). As a control group, 17 healthy women were matched by age and body mass index. The aerobic capacity (oxygen uptake [VO₂ peak], anaerobic threshold, respiratory compensation point, and time-to-exhaustion) was evaluated using the cardiopulmonary treadmill exercise. The disease status was assessed using the International Myositis Assessment & Clinical Studies Group (IMACS) set scores.

RESULTS

The patients had low IMACS parameters. The distribution of CVD and their risk factors and the level of physical activities were similar between the patients and the control group ($P>0.05$). The patients with DM and the control group had similar aerobic capacity parameters. However, the patients with ASS had a significant reduction of aerobic capacity parameters (relative VO₂ peak, anaerobic threshold, respiratory compensation point and time to exhaustion) when compared to the control group. In addition, the patients with ASS had a lower anaerobic threshold compared to the DM group (Table 1).

CONCLUSION

In contrast to DM patients and healthy individuals, the patients with disease-stable ASS have an important impaired aerobic capacity, which is unlikely to totally explain by the traditional risk factors, such as disease activity, CVD, level of physical activities and treatment. Further studies are needed to corroborate our data and to clarify the cause of this reduced aerobic capacity in ASS.

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