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Aerobic capacity in Takayasu's arteritis: possible correlations with functional capacity and lower limb claudication

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BACKGROUND

Lower limb claudication is a relatively common symptom in patients with Takayasu's arteritis (TA). Despite no have to evidence in the literature, the lower limb claudication may lead to a reduction in functional capacity and, consequently, in aerobic capacity. Therefore, the aim of the study was to assess the aerobic capacity and its possible correlations with functional capacity and claudication symptoms.

MATERIALS AND METHODS

This is a cross-sectional, single-center study that compared 12 consecutive adult female patients with TA (1990 ACR classification criteria) with 12 aged-gender-and index mass body (BMI)-matched healthy individuals (CTR), from 2018 to 2019. The aerobic capacity was evaluated by means of the treadmill cardiorespiratory test; functional capacity by the Health Assessment Questionnaire (HAQ) and the Walking Impairment Questionnaire (WIQ); limb claudication by Edinburgh Claudication Questionnaire (ECQ); disease activity by the Indian Takayasu Clinical Activity Score (ITAS).

RESULTS

The mean age of the patients was 43.3±4.3 years, with disease duration of 14.4±7.2 years, BMI of 27.2±3.5 kg/m². According to ITAS, three patients had disease activity. Five patients were using immunosuppressive drugs and only one was also using prednisone (10 mg/day). The absolute and relative maximum peak oxygen consumption (VO2 peak) and respiratory compensation point were lower in the patients with TA when compared to CTR (Table 1). In contrast, the anaerobic threshold and time-to-exhaustion were comparable between both groups. The relative peak of VO2 did not correlate with HAQ, WIQ and ITAS scores, but it correlated inversely with the ECQ scores (Spearman correlation: rho -0.47; P=0.030).

CONCLUSION

Aerobic capacity was significantly impaired in patients with TA. Specifically, the relative maximum VO2 peak correlated inversely with the lower limb claudication, but not with functional capacity neither walking ability. This information is important in daily practice as it may reflect the level of sedentary behavior, leading to a possible increased risk of cardiovascular diseases.

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