Abstract

Background: the assessment of functional capacity in patients with chronic obstructive pulmonary disease (COPD) has been performed by simple and easy to apply methods that mimic everyday activities, such as the Chester step test (TChester). Objectives: to investigate whether TChester is able to differentiate functional capacity and the magnitude of cardiorespiratory response of patients with COPD from healthy subjects; and to compare it with the cardiorespiratory response induced by shuttle test (TShuttle) and six-minute walk test (6MWT). Method: 10 patients with COPD (64±10 years, and forced expiratory volume at the first second - FEV1 38.1±11.8% predicted) and 10 healthy subjects (63±7 years, and FEV1 of 95.8±18.0% predicted) underwent evaluation of pulmonary function, functional status and capacity (6MWT, TShuttle and TChester). Results: COPD patients had worst performance in all tests, when compared to healthy subjects (TChester 2,1±0,9 vs. 4,1±1,1 completed levels; TC6min: 435±105,1 vs. 593±87,3 m; TShuttle 251±84,6 vs. 436±55,4 m; p<0.05). TChester correlated with TShuttle and 6MWT (r =0.67 and 0.83, respectively, p<0.05). There were no differences in heart rate and dyspnea in TChester levels between groups (p>0.05). SpO2 was lower in COPD patients since the first TChester level (p<0.05). Conclusion: TChester is valid in the assessment of functional capacity of COPD patients, being able to distinguish them from healthy subjects, inducing similar cardiovascular demand and greater desaturation in COPD patients.

Keywords
Rehabilitation, evaluation, functional capacity, exercise tolerance, chronic obstructive pulmonary disease.