Short-term Effects of Supplemental Oxygen on 6-Min Walk Test Outcomes in Patients With COPD: A Randomized, Placebo-Controlled, Single-blind, Crossover Trial.

The acute effect of supplemental oxygen during exercise has been shown to differ largely among patients with COPD. It is unknown what factors influence oxygen response. In a randomized, single-blind fashion, 124 patients with COPD underwent one 6-min walk test on supplemental oxygen (6MWTO2) and one 6-min walk test on room air after a practice 6-min walk test. Both gases were delivered via standard nasal prongs (2 L/min). For analyses, patients were stratified on the basis of PaO2 values and compared: (1) 34 patients with resting hypoxemia (HYX); (2) 43 patients with exercise-induced hypoxemia (EIH); and (3) 31 patients with normoxemia (NOX). Oxygen supplementation resulted in an increase in the 6-min walk distance in the total cohort (27 ± 42 meters; P= 30 meters) by using oxygen. These oxygen responders were characterized by significantly lower 6-min walk distance using room air compared with patients without a relevant response (306 ± 106 meters vs 358 ± 113 meters; P< .05). Although oxygen saturation was significantly higher during 6MWTO2 compared with the 6-min walk test on room air in all 3 subgroups, it dropped to< 88% during 6MWTO2 in 73.5% of patients with HYX. In contrast to patients with NOX, patients with HYX...
and EIH generally benefit from supplemental oxygen by increasing exercise capacity. However, less than one-half of patients reached the threshold of clinically relevant improvements. These oxygen responders were characterized by significantly lower exercise capacity levels. ClinicalTrials.gov; No.: NCT00886639; URL: www.clinicaltrials.gov.