primary studies - published RCT

Effects of hyperoxia on oxygen uptake kinetics in cystic fibrosis patients as determined by pseudo-random binary sequence exercise.

Code: PM10029341 **Year:** 1999 **Date:** 1999 **Author:** Kusenbach G

Study design (if review, criteria of inclusion for studies)

RCT

Participants

9 CF patients and 13 healthy controls (HC)

Interventions

they exercised while breathing humidified and heated air with a fractional concentration of oxygen in inspired air (F(I)O2) of either 0.21 or 0.40.

Outcome measures

VO2 kinetics

Main results

With a F(I)O2 of 0.21 the respiratory exchange ratio (R) was higher in CF than in HC both at rest (0.91 vs 0.81) and during exercise (0.97 vs 0.89). Oxygen saturation (SO2) was slightly lower in CF. but remained above 90% during exercise (92.7% vs 95.2%). Spectrum analysis revealed that in CF, the amplitude ratio (AR) between V02 and exercise intensity was lower over a wide frequency range (P

Authors' conclusions

In CF patients low AR and PS would indicate an attenuated VO2 response attributable to an impaired oxygen utilization in the muscles because the oxygen supplement normalised SO2 but failed to improve R and VO2 kinetics.

http://dx.doi.org/10.1007/s004210050494

See also

Eur J Appl Physiol Occup Physiol. 1999 Jan;79(2):192-6.

Keywords

Adolescent; Adult; Child; exercise; non pharmacological intervention - devices OR physiotherapy; Oxygen; Chest physiotherapy;