

Modifications of aerobic performance and ventilatory responses during exercise in COPD patients undergone to lung resection

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Cardiopulmonary exercise test is an important tool for preoperative risk assessment of lung resection for non-small cell lung cancer. However, physiological modifications after surgery remain controversial in patients with COPD. Methods. A prospective cohort study that compared functional loss after six months of lung resection in patients with COPD and controls. The study was powered to detect a 20% difference in the $\dot{V}O_2PEAK$ between the groups ($\beta=0.2\%$; $\alpha=0.05$).

Results: Eighteen patients were selected, ten to COPD group and eight to control group. Follow-up after six months showed that controls presented a decrease in $\dot{V}O_2PEAK$ (20.8 ± 7.1 mL/kg/min to 16.3 ± 5.3 mL/kg/min, $p = 0.007$), a difference not observed in COPD patients. In both groups, there were no difference in the $\Delta\dot{V}E/\Delta\dot{V}CO_2$ values, but in COPD group an increase of the $\Delta\dot{V}E/\Delta\dot{V}CO_2RCP$ intercept and $\square\dot{V}O_2/\square W$ was observed ($p < 0,05$). Conclusion: Patients with COPD present a lesser degree of $\dot{V}O_2$ PEAK loss after surgery, compared to controls. However, augmentation of $\square\dot{V}E/\square\dot{V}CO_2$ intercept and $\square\dot{V}O_2/\square W$, may suggest an increase in the ventilatory mechanical work of patients with COPD after lung parenchymal resection.

Biography

Danielle Bedin, MD, has completed her PhD in 2018 in Universidade Federal de São Paulo (UNIFESP), São Paulo Brasil. She is associate physician in Preoperative Medical Clinic at Hospital São Paulo, (academic hospital – UNIFESP).