CARDIOPULMONARY EXERCISE TESTING (CPX) IN PATIENT WITH COMBINED PULMONARY FIBROSIS AND EMPHYSEMA (CPFE)

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Introduction

CPFE is a distinct entity among fibrosing lung diseases. We wondered whether CPX is helpful in showing differences between patients with and without resting PH.

Methods

CPX in CPFE patients with typical CT findings and lung function-tests (normal or slightly decreased VC, FVC and FEV\textsubscript{1}/FVC, decreased TLCO) and without resting hypoxemia.

Results

24 patients had CPX-testing. 6 patients with PH had significantly lower SaO\textsubscript{2} (%), TLCO (%-pred.) and TLCO / VA (%-pred) than those without PH (92.5 ± 2.0 vs. 95.2 ± 1.9, 24.9 ± 5.9 vs. 43.4 ± 10.0 37.5 ± 6.9 vs. 53.3 ± 12.0 resp.), as well as more dead space ventilation (p <0.05), there were highly significant differences (p <0.01) between patients with and without PH in peak-VO\textsubscript{2} (918 ± 122 ml vs. 1397 ± 387 ml, VO\textsubscript{2}/ kg IBW / min (13.1 ± 2.7 ml vs. 19.5 ± 5.0 ml), peak-AaDO\textsubscript{2} (66.8 ± 3.5 mmHg vs. 44.9 ± 10.2 mmHg), AaDO\textsubscript{2} at VT1 (57.5 ± 3.3 mmHg vs. 37.9 ± 9.9 mmHg), aerobic capacity (6.6 ± 1.7 ml O\textsubscript{2}/Watt vs. 8.9 ± 1.6 mlO\textsubscript{2}/watt), VE/VCO\textsubscript{2} slope (58.6 ± 17.9 vs. 39.2 ± 7.8) and PaetCO\textsubscript{2} (12.5 ± 2.1 vs. 7.9 ± 3.6 mmHg).

Discussion

Patients with CPFE and PH have a significantly impaired gas exchange compared to those without PH. This has to be attributed to an additional pulmonary vascular pathology. If changes of the VE/VCO\textsubscript{2} slope during exercise are indicative of an exercise PH, needs further clarification by simultaneous right heart catheter examination.