

INFLUENCE OF RESPIRATORY TRAINING WITH POSITIVE END-EXPIRATORY PRESSURE ON THE VENTILATION AND GAS EXCHANGE IN LUNGS OF ELDERLY PATIENTS WITH COPD

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Abstract

Aim: to determine the effect of the course of respiratory training with positive end-expiratory pressure on the ventilatory function of the lungs and pulmonary gas exchange in elderly patients with COPD.

Material and methods. 16 elderly patients with COPD who received respiratory training with positive end-expiratory pressure and 16 elderly patients with COPD who received simulation respiratory training were examined. We determined lung ventilation, diffusion capacity of the lungs and blood oxygen saturation. The course of respiratory training consisted of 10 daily sessions, each session included a 15-minute breathing with positive end-expiratory pressure of 5 cm of water column.

Results. After the course of respiratory training with positive end-expiratory pressure, the indicators of bronchial permeability (FEV_1 , MEF_{50} , MEF_{25} , PEF, FEV_1/FVC) and lung ventilation (VE, FVC, MVV) significantly increased in elderly patients with COPD. The use of respiratory training with positive end-expiratory pressure resulted in an increase of the effectiveness of pulmonary gas exchange, lung diffusion capacity and blood oxygen saturation as well. It was found that respiratory training lead to an increase in the ventilatory response to hypoxia and resistance to hypoxia in elderly patients with COPD.

Conclusions. The use of respiratory training with positive end-expiratory pressure improves ventilation and increases the effectiveness of pulmonary gas exchange in elderly patients with COPD. This contributes to an increase of resistance to hypoxia in elderly patients with COPD.

Key words: COPD, ventilation, lung gas exchange, resistance to hypoxia, respiratory training with positive end-expiratory pressure, aging.

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