

FEATURES OF RESISTANCE TO HYPOXIA IN ELDERLY PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Abstract

Aim: to study the features of resistance to hypoxia in elderly patients with COPD.

Material and methods. We examined 46 elderly patients with COPD and 18 apparently healthy elderly people. Hypoxia resistance was determined by performing a hypoxic test with inhalation of 12 % O₂ for 20 minutes. The state of ventilation and blood saturation were assessed.

Results. Hypoxia caused the reduction of SpO₂ and the development of arterial hypoxemia in elderly patients with COPD, which were more significant than in healthy elderly people. It was found that among elderly patients with COPD and healthy elderly subjects there were people with preserved and reduced resistance to hypoxia. However, reduced resistance to hypoxia was much more common in elderly patients with COPD. Decreased resistance to hypoxia in elderly patients with COPD was associated with the degree of bronchial obstruction: deterioration of bronchial passability led to reduced resistance to hypoxia. Elderly patients with COPD with reduced resistance to hypoxia had a decrease in the $\Delta VE/\Delta SpO_2$ ratio and a slow ventilation response to hypoxic exposure.

Conclusions. Among healthy elderly people and elderly patients with COPD there were subjects with reduced and preserved resistance to hypoxia. Decreased resistance to hypoxia was much more common in elderly patients with COPD. Decreased resistance to hypoxia was more common in patients with moderate than mild bronchial obstruction. Elderly patients with COPD with reduced resistance to hypoxia had reduced ventilation response to hypoxia and chemoreflex sensitivity.

Key words: COPD, older age, resistance to hypoxia, ventilation, saturation.

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