PULMONARY GAS EXCHANGE IN ELDERLY PEOPLE WITH PHYSIOLOGICAL AND ACCELERATED AGING OF THE RESPIRATORY SYSTEM: EFFECT OF RESPIRATORY TRAINING WITH POSITIVE END EXPIRATORY PRESSURE

E. O. Asanov, I. A. Dyba, E. D. Osmak

Abstract

The aim — to evaluate the influence of respiratory training with positive end expiratory pressure (PEEP) on lung gas exchange in elderly people with physiological and accelerated aging of respiratory system.

52 apparently healthy subjects 60–74 years of age were examined 25 — with physiological and 27 — with accelerated aging of respiratory system. Diffusion lung capacity, lung ventilation equity, pulmonary circulation and blood oxygen saturation were measured before and after PEEP training. PEEP training consisted of 10 sets, each including 15 minutes PEEP breathing (5 cm of water column for those with accelerated and 10 cm — for those with physiological aging). The training was performed using "Threshold PEP", Germany.

Data analysis demonstrated that PEEP training in both groups of patients caused better equity of lung ventilation and improved lung diffusion capacity, which consequently led to improved lung perfusion and better oxygenation of blood.

Conclusion. The effectiveness of PEEP training in terms of improvement of lung gas exchange was confirmed in elderly people both with physiological and accelerated aging of respiratory system. Long-term training with PEEP may be recommended to improve functional capacity of elderly people with either physiological or accelerated aging of respiratory system.

Key words: physiological and accelerated aging of respiratory system, gas exchange, influence of positive end expiratory pressure.

Ukr. Pulmonol. J. 2014; 3: 64–67.

Erwin O. Asanov
SI "D.F. Chebotarev Institute of gerontology NAMS of Ukraine",
Department of internal clinical physiology and pathology
Chief research assistant, doctor of medicine
67, Vishgorodska str., Kyiv, 04114, Ukraine
Tel.: 38 044 360-57-86
eoasanov@ukr.net