

RESPIRATORY FUNCTION IN ACOS PATIENTS ON THE COMPLEX TREATMENT

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Abstract

The aim of the study was to evaluate the effect of adding of tiotropium bromide to prior basic therapy in patients with Asthma–COPD (chronic obstructive pulmonary disease) overlap syndrome (ACOS) on lung volumes and airflow obstruction using spirometry and body plethysmography methods.

Materials and methods. The study included 43 ACOS patients. Patients continued to receive basic therapy (inhaled corticosteroids (ICS) or ICS + long-acting β_2 -agonists (LABA) in a stable dose and short-acting β_2 -agonists (SABA) per need). Tiotropium bromide 18.0 mcg (hendi-haler) or 5.0 mcg (respimat) (TIO) was added to treatment once daily. All patients underwent spirometry, body plethysmography at baseline, through 3 hours after application of the basic therapy + TIO, 24 hours after the inhalation, and after 2 months of treatment (pre- and post-dose).

Results. Already 3 hours after the first inhalation of tiotropium there was a significant positive dynamics of lung function: pulmonary hyperinflation decreased – significantly decreased the total bronchial resistance, residual lung volume, inspiratory capacity increased; bronchial patency improved –has increased by 280 ml, bronchial patency increased at all levels, FVC increased.

24 hours after the first dose of tiotropium most of lung function indices were improved: some of improvements remained significant – residual volumes, inspiratory capacity were lower than in the original investigation; FEV₁, FVC, patency at all levels of the bronchial tree were significantly better than the initial results.

After 2 months of treatment during the test with tiotropium (before and 3 hours after inhalation) the drug has continued to provide an additional significant effect, almost the same as the first inhalation, regarding the impact of both on the parameters of pulmonary hyperinflation, and the bronchial patency.

Conclusions. Adding the tiotropium to basic therapy in patients with ACOS leads to improved performance of lung function – reduced signs of lung hyperinflation, improved bronchial patency. The effect of tiotropium in patients with ACOS is fast and lasting.

Key words: ACOS, tiotropium bromide, body plethysmography, spirometry.

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