

# DIAGNOSING AND CONTROL OF LUNG HYPERINFLATION IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS

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## *Abstract*

**Background.** Objective and timely diagnosing of lung hyperinflation and control of this condition is an important clinical task. An increase of functional "dead" space, which could be assessed by the volume of exhaled  $\text{CO}_2$ , is a characteristic feature of lung hyperinflation. Considering this fact we planned to study the role of capnometry in diagnosing of this disorder.

Current study was done in order to evaluate capnometry capability in diagnosis and control of lung hyperinflation in COPD patients.

**Material and methods.** In 3 months interval using capnometry we examined 10 COPD patients on maintenance therapy months and 5 COPD patients without treatment.

**Results.** We observed a statistically significant increase of  $\text{FECO}_2$  from  $(2,72 \pm 0,13) \%$  to  $(3,07 \pm 0,16) \%$ ,  $p < 0,01$ , suggesting a decrease of a degree of hyperinflation. In natural course of the disease without treatment we noticed a statistically significant decrease of  $\text{FECO}_2$  from  $(2,94 \pm 0,14) \%$  to  $(2,58 \pm 0,22) \%$ ,  $p < 0,05$ , which confirmed an increase of a degree of hyperinflation in COPD patients.

**Conclusion.** Capnometry is an additional instrument for dynamic follow-up of hyperinflation of lung in COPD patients both for treatment efficacy and disease progression monitoring. The minimal clinically significant change in  $\text{FECO}_2$  value in control of bronchodilator therapy should be 0,2 % difference.

**Key words:** chronic obstructive pulmonary disease, hyperinflation of lung, capnometry.

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