

## CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND THE HEART: ACHIEVEMENTS AND CURRENT QUESTIONS

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### *Abstract*

Chronic obstructive pulmonary diseases (COPD) is one of the most widespread (7.6%) diseases in the world. According to the WHO prognosis, COPD will become the leading cause of mortality in the world by the 2020 year. Cardiovascular diseases are main complications in patients with COPD, occurring 4.5 times more often than in the population.

*Aim:* to review last scientific data on comorbidity of COPD and cardiovascular diseases and to determine possible ways of early diagnostics and prevention of their occurrence.

*Materials and methods.* International publications were reviewed (for the period of 1992–2016 years in PubMed, EMBASE, Cochrane). Data from 45 articles were used, key statements of them were synthesized and reported in this article.

*Results and discussion.* Systemic complications of COPD are conditioned by manifestation of systemic inflammation and chronic hypoxia. Pro-inflammatory cytokines promote the occurrence of secondary changes in tissues and organs, being predictors of exacerbations and lung function deterioration. Endothelial dysfunction is an independent predictor of the cardiovascular pathology. Pulmonary hypertension occurs in patients with COPD of different severity and gradually progresses. Metabolic syndrome often occurs in patients with COPD and complicates its course. Beta-blockers and statins can be used for decreasing the intensity of systemic COPD manifestations.

*Conclusions.* COPD has multiple systemic manifestations, which complicate its course. There are various methods to be used for early diagnostics and prevention of complications.

**Key words:** COPD, comorbidities, cardiovascular pathology, prevention.

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