

# PULMONARY HYPERTENSION IN COPD PATIENTS: MECHANISMS OF DEVELOPMENT AND INFLUENCE ON STRUCTURE AND FUNCTIONAL CONDITION OF THE HEART

**O. O. Krakhmalova, O. M. Kolesnikova**

*Abstract*

Pulmonary hypertension (PH) is one of the complications of chronic obstructive pulmonary disease (COPD), associated with the risk of repeated hospitalizations and economical burden. The review of the literature on PH in COPD is presented in current article.

Various factors are involved in the development of PH in COPD patients: changes in the filling pressure of the left heart, cardiac output, heart rate, hematocrit, and lung circulating blood volume. However, the most important factor is an increase in pulmonary vascular resistance, mainly at the level of precapillary arteries and arterioles.

Echocardiographic studies revealed structural and functional changes in the heart, which progress with increasing severity of COPD. It is established that PH leads to dysfunction and remodeling of the right ventricle and right atrium, contributing cor pulmonale development. Considering close functional interrelations, it is also impossible to exclude the influence of PH on left ventricle of the heart, especially in patients with concomitant ischemic heart disease (IHD). In COPD there is a predisposition to the increased vascular wall rigidity, being, according to current views, an independent predictor of general and cardiovascular mortality. As COPD progresses, PH increases, which due to common pathophysiology mechanisms with cardiovascular diseases, increases the cardiovascular risk.

**Key words:** chronic obstructive pulmonary disease, pulmonary hypertension, pathogenesis.

**Ukr. Pulmonol. J. 2017; 3: 61–64.**

*Olena O. Krakhmalova*

*Institute of Therapy named after L. T. Malaya*

*of National Academy of Medical Science of Ukraine*

*Head of Cardiopulmonology department*

*DMSc, MD, PhD*

*2-A, L. Malaya Av., Kharkiv, 61039, Ukraine*

*Tel./fax: 380573739017, womanl@bigmir.net*