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**Title:** Immunological issues of occupational chronic obstructive pulmonary disease in combination with arterial hypertension

Prof. Dr Inna F. Kostyuk, occdis@hnmu.org.ua, MD<sup>1</sup> and Dr. Oleksiy O. Kalmykov, koleksiy@hnmu.org.ua, MD<sup>1</sup>. <sup>1</sup>Department of Internal and Occupational Diseases, Kharkiv National Medical University, Kharkiv, Ukraine, 61022.

**Body: Background:** One of actual practical and scientific problems in pulmonology and occupational medicine is often development of occupational bronchitis and its rapid transformation into chronic obstructive pulmonary disease (COPD).

**Aims and objectives** The study is dedicated to investigation of immune homeostasis and cytokine system in occupational COPD in combination with arterial hypertension (AH) and assessment of immune inflammation role in the development and progression of associated pathology.

**Results:** Peculiarities of clinical course of COPD in the relation to presence of combined AH and patients profession were revealed. The disease influence on life quality of dust professions workers from machine-building industry was established.

It was proofed that one of mechanisms of COPD clinical manifestation is the disbalance in immune system. It included the moderate depression of non-specific (phagocytosis activity, nitro blue tetrazolium test, natural killers CD16) and cellular (decrease of T-lymphocytes CD3, increase of lymphocyte migration inhibition reaction) components of immune system on the background of activation of humoral (increase of IgM, IgG), and in cytokine component – increase of TNF $\alpha$ , IL-4 with decrease of IFN $\gamma$  levels.

**Conclusions:** The presence of associated AH in patients with COPD is accompanied by the activation of immunoinflammatory process with boost of humoral answer at the background of cellular immunodepression and more expressed dysbalance in cytokine system. Immunoinflammatory changes are also connected with working conditions and define the peculiarities of clinical manifestation of COPD in different professional groups.

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