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SMOKING AS MODIFIABLE FACTOR IN DEVELOPMENT OF CRONIC OBSTRUCTIVE PULMONARY DISEASE IN COMBINATION WITH ARTERIAL HYPERTENSION

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Chronic obstructive pulmonary disease and cardiovascular diseases have remained the top major causes of mortality during the past decade. In the top of 10 leading causes of death in the world COPD is on the third place, it's 3.1 million people, and arterial hypertension is on the tenth – 1.1 million. Combination of these two pathologies aggravates the course of each other, represents serious medical and social problems, leads to health-related quality of life reducing and, eventually, may lead to disability.

At present, the main modifiable factor that can be determined for these diseases, increasing the risk of them, is smoking. Tobacco use is a major cause of many of the world’s top mortal illnesses – including cardiovascular pathology, chronic obstructive pulmonary disease and lung cancer. In general, tobacco use is responsible for the death in about 1 of each 10 adults worldwide. Smokers arise the specific nature of inflammation, including, along with the presence of neutrophils and macrophages, increased contents of cytotoxic T-cell and natural killers lymphocytes, presented only in smokers, leading to structural changes in the bronchi. In later stages, primarily considering growing hypoxia, there are structural changes not only in pulmonary, but also in systemic circulation. All this results in the formation of endothelial dysfunction. It is known, that endothelium regulates the vascular tone. Endothelial dysfunction is an imbalance between substances produced in the endothelium and responsible for contraction and dilation of blood vessels. This in turn can be one of the causes of arterial hypertension. Nicotine constricts blood vessels, thereby, increasing arterial blood pressure. It also stimulates the adrenal cortex to secrete adrenaline, which increases the heart rate and causes hypertension.

According to the World Health Organization, today 1.3 billion people on our planet is dependent on tobacco. Every year in Ukraine about 100 000 people die from smoking-related causes, while in Kharkiv 3363 people die in a year due to smoking, about 9 persons daily. So, it could be said, that smoking is one of the main reasons of COPD in combination with arterial hypertension. And this is a modifiable factor! If everybody decides to stop smoking, this would not only decrease the risk of development of these pathologies, but also significantly improve the quality of life.