RESPIRATORY SYMPTOMS AND PULMONARY FUNCTION IN PATIENTS WITH CHRONIC LYMPHOPROLIFERATIVE DISEASES

K. Yu. Gashynova[1], G. V. Usenko[2]
[1]*Dnipro State Medical University, Dnipro, Ukraine*
[2]*Public Non-profit Enterprise "City Clinical Hospital#4" of Dnipro City Council, City Hematology Center, Dnipro, Ukraine*

Abstract. The aim: to study the prevalence of respiratory symptoms and pulmonary function (PF) in patients with various chronic lymphoproliferative diseases (CLPD) in the Dnipro region of Ukraine.
Methods. In all patients who were included in this prospective single-center study, complaints and anamnesis data were collected, anthropometric and general physical examinations, mMRC and CAT questionnaires, analysis of the results of high-resolution computed tomography of the chest organs to determine the presence of intrathoracic lymphadenopathy (ITLAP) were performed. In all patients, parameters of PF were determined using computer spirometry, and when signs of bronchial obstruction were detected, a test with a bronchodilator was performed to determine its reversibility. We analyzed the level of FEV_1, FVC and the ratio of FEV_1/FVC, PEF, MEF_{25}, MEF_{50} and MEF_{75}. Patients with a confirmed diagnosis of bacterial or viral pneumonia (including patients with COVID-19) were excluded from the study. The methods of descriptive and analytical statistics of the software product STATISTICA v.6.1 (Statsoft Inc., USA) (license number AGAR909E415822FA) were used to process the obtained results.
Results. The study found that 37.8 % of patients had complaints from the respiratory system, and 42 % of all patients had significant severity of respiratory symptoms according to the CAT questionnaire. At the same time, only 4.4 % of patients, according to the anamnesis, had established diagnoses of respiratory comorbidity. Among the examined patients with CLPD, 54.4 % had PF disorders, and 81.6 % of them had only obstruction or mixed disorders with a predominance of obstruction (52.5 % mild obstruction, 37.5 % moderate obstruction, and 10 % severe obstruction) and 12.5 % of cases had a positive bronchodilation test. The ratio of FEV_1/FVC was found to be significantly lower in patients with multiple myeloma than in patients with chronic lymph leucosis and lymphomas, which may hypothetically be related to the formation of fibrosis of the bronchial wall; however, the proportions of patients with obstructive PF disorders were equivalent in the groups. ITLAP was detected in 42.2 % of patients. The presence of ITLAP in patients with lymphomas was significantly associated with a lower FEV_1, while in patients with chronic lymph leucosis, who had bronchial obstruction in 43.4 % of cases, the presence of ITLAP had a tendency, but was not statistically significantly associated with the presence obstruction or a lower FEV_1 level.
Conclusions The obtained results indicate the need for a thorough examination of the respiratory organs, including chest computed tomography and spirometry, in all patients with CLPD, even in the absence of known respiratory comorbidity. According to the obtained results, the presence of PF violations of the obstructive type and the presence of ITLAP are among the main factors that affect the severity of respiratory symptoms in CLPD, therefore, they require careful diagnosis and, in the presence of bronchial obstruction, the appointment of appropriate broncholytic therapy, which can potentially improve the quality life of this category of patients.

Key words: multiple myeloma, chronic lymphocytic leukemia, lymphoma, pulmonary function, respiratory symptoms.