Purpose: The neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) are prognostic factors for various types of cancer. In this study, we assessed the association of NLR and PLR with the prognosis of small-cell lung cancer (SCLC) in patients who received the standard treatment.

Material and Methods: We retrospectively reviewed patients who were diagnosed with SCLC and treated with the standard chemotherapy at Suleyman Demirel University Chest Diseases and Dr. Suat Seren Chest Diseases and Thoracic Surgery.

Results: In total, 136 patients were evaluated. Patients’ clinic characteristics and hematologic tests data at initial diagnosis were collected. The univariate analysis of all SCLC patients indicated that favorable prognostic factors were gender, disease stage, the number of metastatic sites, good performance status and received treatment according to the stage. Moreover, univariate analysis showed that low lymphocyte count (<1590) and high neutrophil-lymphocyte ratio (\(>3.7\)) predicted poor prognosis in SCLC. Median overall survival (OS) was worse in the high-NLR group. In the multivariate analysis, NLR, stage, the number of metastatic sites, karnofsky performance status (KPS), received treatment were independent prognostic factors for OS.

Conclusion: This study demonstrated that the NLR could help to predict poor prognosis in SCLC patients before treatment. Larger prospective studies are required to confirm these findings.