DIAGNOSTIC SIGNIFICANCE OF INFLAMMATORY MARKERS AND HEMATOLOGICAL PARAMETERS IN LUNG CANCER

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Abstract: *Lung cancer is one of the leading causes of cancer-related mortality worldwide. In addition to tumor growth, a systemic inflammatory response develops in patients, which is reflected in hematological and biochemical laboratory parameters. The assessment of inflammatory markers may contribute to early diagnosis, disease staging, and prognostic evaluation in lung cancer.*

Objective. To evaluate the diagnostic and prognostic significance of hematological parameters and inflammatory markers in patients with lung cancer based on 40 clinical cases.

Materials and Methods. The study included 40 patients with histologically confirmed lung cancer who were treated in a specialized oncology center. The patients' age ranged from 41 to 78 years; 28 were male and 12 were female.

All patients underwent the following laboratory investigations: complete blood count (hemoglobin, erythrocytes, leukocyte differential, platelets, erythrocyte sedimentation rate); inflammatory and biochemical markers (C-

reactive protein, lactate dehydrogenase); calculated inflammatory indices, including neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR).

The obtained laboratory results were analyzed in relation to clinical stage and disease severity.

Results.

Anemia was detected in 70% of patients, predominantly of the normocytic type. Elevated ESR was observed in 62.5% of cases. Increased CRP levels were found in 65% of patients and showed a positive correlation with advanced clinical stages.

An increased NLR (≥3.0) was identified in 60% of patients and was more frequently observed in advanced-stage disease. Elevated PLR values were associated with unfavorable prognosis. LDH levels were significantly higher in patients with metastatic disease, indicating increased tumor activity.

Conclusion.

Changes in hematological parameters and inflammatory markers reflect tumor activity and systemic inflammatory response in lung cancer. The combined assessment of NLR, PLR, CRP, and LDH may serve as a simple, cost-effective, and informative approach for improving diagnostic accuracy and prognostic evaluation in clinical practice.

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