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EARLY LABORATORY DIAGNOSIS OF LUNG CANCER

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Research Objective: The objective of this study is to evaluate the effectiveness of modern clinical laboratory methods in the early diagnosis of lung cancer by analyzing cytological changes in sputum and pleural fluid, and to assess the sensitivity and specificity of these diagnostic tools.

Materials and Methods: The study was conducted on 40 patients with suspected lung cancer. Morning sputum samples and pleural fluid obtained via thoracocentesis were collected from each patient. The samples were stained using the Romanowsky-Giemsa and Pappenheim techniques and analyzed cytologically under a microscope.

Results: In the course of our study, early laboratory indicators were assessed in 40 patients with suspected lung cancer, later confirmed through histological examination. The patients were predominantly between 45 and 70 years old, including 27 men and 13 women. Cytological examination of sputum revealed pathological cells in 15 patients. Cytological analysis of pleural fluid showed atypical cells in 18 patients, of whom 16 were later confirmed to have lung cancer via biopsy. The sensitivity of sputum cytology was evaluated at 65%, while pleural fluid cytology demonstrated a sensitivity of 80%.

Conclusion:

Cytological examination of sputum and pleural fluid in suspected cases of lung cancer is of great importance for early diagnosis. These methods can provide preliminary information about malignant processes even before performing invasive biopsy. They are recommended as additional, cost-effective, and rapid diagnostic tools in clinical practice.