

# The Possibilities of Bronchoscopy in the Diagnosis of Bronchopulmonary Cancer

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## Abstract

*Aim:* Our research aimed to study the informativeness of bronchoscopic examination in detecting bronchopulmonary cancer. *Materials and Methods:* A cohort of patients with suspected bronchopulmonary cancer was examined. These patients were admitted for bronchoscopy at the Thoraco-abdominal Surgery Department of the IMSP Oncological Institute of the Republic of Moldova during the year 2023. We included patients with suspected bronchopulmonary cancer who needed diagnostic bronchoscopy in the study. Patients with suspected bronchopulmonary cancer requiring diagnostic bronchoscopy but with severe cardiac and respiratory insufficiency, patients who have not timely interrupted anticoagulant/antiplatelet medication, or those with abnormal results in coagulation tests were excluded. *Results:* We evaluated 146 hospitalized patients with age from 37 to 85 years, and an average of 66.35 years. Most evaluated patients were men (107, 73.3%). In central lung cancer, the most frequently reported findings were tumoral infiltration of the bronchial wall in 40 patients (46.5%), followed by endobronchial tumor formation in 21 patients (24.4%), hyperemia and thickening of the bronchial mucosa in 12 cases (14.0 %), and narrowing of the bronchial lumen, which was observed in 8 patients (9.3%). Among the endobronchial signs detected in patients with peripheral lung cancer, hyperemia and thickening of the mucosa were found in 29 patients (48.3%), tumoral infiltration of the bronchial wall in 11 patients (18.3%), bronchial compression in 10 cases each (16.7%), tumor process described in 4 patients (6.7%), local narrowing of the bronchial tree in 5 patients (8.3%), and tracheal deformation in one patient (1.7%). We found that bronchopulmonary cancer was confirmed through cytological examination in 62.9% of cases. Following the histopathological analysis of the biopsy material obtained through bronchoscopy, bronchopulmonary cancer was morphologically confirmed in 82.6% of cases. Among the histological types of lung cancer, squamous cell carcinoma was diagnosed in 47.8% of cases, small cell carcinoma in 18.8%, and adenocarcinoma in 15.94% of cases. Among the complications reported following diagnostic bronchoscopy in patients with lung cancer, hemorrhage occurred in 3.42% of patients. *Conclusions:* Lung cancer can progress asymptotically for an extended period and becomes clinically apparent in advanced stages. Radiological investigations such as chest radiography and computed tomography play a crucial role in detecting bronchopulmonary cancer. Radiological imaging reveals the localization, dimensions of pulmonary opacity, its connections with the tracheobronchial tree, the blood vessels of the pulmonary hilum and mediastinum, pleura, and other anatomical structures of the chest. Bronchoscopic examination is pivotal for patients suspected of bronchopulmonary cancer, providing direct visualization of macroscopic tracheobronchial changes and enabling the collection of samples through biopsy.

**Keywords:** Lung cancer; Bronchoscopy; Bronchopulmonary cancer; Radiological investigations; Histopathological analysis

