

Lung cancer is a complex and heterogeneous disease that may virtually metastasize to all organs. Diagnostic and therapeutic management of patients with lung cancer requires multidisciplinary co-operation. Accurate pathological diagnosis and accurate tumor stage are paramount for proper treatment of patients. Pathological diagnosis is based on histology, immunohistology and molecular analyses. Determination of clinical tumor stage is based on imaging, particularly by means of PET-CT, and invasive procedures. Pathological tumor stages are available only for patients who have undergone resection of their tumors.

Prognosis of patients depends on tumor stage. Most importantly, however, treatment of lung cancer is based on histology, presence or absence of driver mutations in tumor cells, and tumor stage. Patients with early-stage non-small-cell lung cancer (NSCLC) undergo surgery with curative intent. Patients with complete tumor resection of tumor stages II and III will be candidates for adjuvant chemotherapy. Patients with locally advanced NSCLC receive multimodality therapy that includes local and systemic therapies. Local therapies are surgery, thoracic radiotherapy or a combination of both. Systemic therapies currently include platinum-based chemotherapy and consolidation therapy with durvalumab. Patients with advanced driver mutation-negative NSCLC receive chemotherapy with or without angiogenesis inhibitors, immune checkpoint inhibitors, and EGFR tyrosine kinase inhibitors (erlotinib, afatinib). Patients with driver mutation-positive tumors receive first-line therapy with corresponding tyrosine kinase inhibitors. Patients with small-cell lung cancer receive chemotherapy with or without thoracic radiotherapy.

For proper delivery of these treatments, accurate pathological diagnosis and accurate tumor stage are crucial. This can best be achieved by multidisciplinary tumor boards which must be established in all hospitals involved in the care of patients with cancer. These tumor boards allow close co-operations between all those involved in the diagnosis and treatment of patients with lung cancer. Multidisciplinary tumor boards should include pathologists, radiologists, pulmonologists, surgeons, radio-oncologists, medical oncologists, palliative care physicians, and oncology nurses. Interventional pulmonologists and interventional radiologists play a major role for obtaining tumor tissue for pathological and molecular diagnosis as well as for treatment monitoring. Molecular biologists are gaining importance because of the increasingly complex molecular nature and molecular analyses of lung cancer.

Treatment of patients with lung cancer is determined by multidisciplinary tumor boards. The multidisciplinary nature of these boards will guarantee the optimal diagnostic and therapeutic management of patients with lung cancer. The multidisciplinary tumor boards should develop a treatment strategy for each individual patient. The actual outcome of patients whose therapeutic management has been determined by these tumor boards should also be assessed. These assessments should be part of a quality control program of hospitals and will contribute to continuous improvements in the performance of the multidisciplinary tumor boards. Tumor boards are also very important for continuous medical education of doctors. Members of tumor boards should select interesting and instructive patient cases for future presentation at medical conferences. In summary, multidisciplinary tumor boards benefit all patients with lung cancer.



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