

When, young Thoracic Surgeon with high hopes, I was hired at the Molinette Hospital in Turin, there were few drugs available for the systemic chemotherapy of lung cancer, and a patient with an advanced or metastatic tumor had an expectation of life of a few months.

If it is true that approximately half of patients with lung cancer are diagnosed with an incurable disease, and a ponderable percentage of patients with early stage one, treated with curative intent, can eventually recur, current unbelievable revolution in Thoracic Oncology allowed to give new hope for these patients, improving survival and reducing cancer treatment toxicity.

Currently, no patient with advanced Non-Small Cell Lung Cancer (NSCLC) is treated in the same way it would have been cured 5-8 years ago. The development of numerous new molecules, the identification of genetic mutations, the better recognition of drugs resistance mechanisms have dramatically evolved the oncological therapy of lung neoplasms. Nowadays, patients with advanced NSCLC survive longer and sometimes may be presented to the surgeon for possible resection.

All patients with non-squamous NSCLC or those with squamous cancer younger or never smokers should now have molecular testing of their tumor; furthermore, immunohistochemical Immune Checkpoint Inhibitors (ICI) evaluation (e.g., PD-L1) should be performed in all advanced stages lung cancers, regardless of their histological subtype. This general approach represents the movement toward a personalized medicine which has radically changed the therapeutic approach in NSCLC.

Patients with a cancer that harbors a mutation (e.g., EGFR, ALK, ROS-1, BRAF, NTRK, MET, RET, HER-2) should now be treated with targeted therapy directed to their mutation instead of receiving a platinum-based classic systemic chemotherapy. Results of targeted therapy are a significant tumor regression and a reduced toxicity, compared to traditional systemic chemotherapy. The problem of frequent targeted agents therapeutic resistance is nowadays faced with the development of ever new molecules, also characterized by an ever better mechanism of penetration into the central nervous system (CNS), site of frequent distant metastases.

The results of recent clinical trials encourage ICI administration as a part of induction treatment in NSCLC: an increased pathological response compared to chemotherapy and no evidence for a delay in surgery represent the factors that mostly suggest this new therapeutic approach in lung cancer.

Moreover, the recent ICI association with traditional chemotherapeutic agents has increased the survival of advanced NSCLC which had only partially responded to a first line therapy.

This book represents a huge editorial effort with an interesting update of lung cancer biology and, above all, news in its medical therapy. I believe that this publication can be extremely interesting not only for the researchers but also for thoracic oncologists and thoracic surgeons. I am truly honored to write the preface to such an important book; the AME publishing team should be congratulated for having managed to collect in a single volume such an interesting and prestigious series of articles on lung cancer. Reading it will undoubtedly be extremely interesting for everyone. I wish this publication, of which I'm honored to be Co-Editor, a great success. Happy reading everyone!



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