Genes and signaling pathways involved in division and proliferation of cancer cells have been elucidated, and molecular targeting drugs acting on them have been developed one after another, recently. Since the 2000s, clinical studies show the effectiveness of targeted agents, and some of which have been used in daily practice.

Various kinds of molecular targeted drugs in the treatment of lung cancer (EGFR receptor, monoclonal antibodies, tyrosine kinase inhibitors, angiogenesis inhibitors) have been developed so far, and have made progress in many clinical trials. The combination of radiotherapy and these targeted therapy is considered one of the most important treatment options for the development of newer therapeutic strategies for unresectable locally advanced lung cancer. However, there is no clinical evidence that are superior to combination with cytotoxic anticancer agents. In this symposium, the results of the clinical trials so far will be reviewed for drug of choice, the identification of a beneficial population, drug combination of timing, and adverse events, and I would like to discuss the therapeutic strategies in the future.