

Lung Cancer Treatment in Asian Countries

Lung cancer is a leading cause of death not only in developed but also in developing countries in spite of intensive campaigns against smokers. Preclinical translational and clinical studies have provided much new evidence on how lung cancer can be best managed. Recent advances in molecular biology have completely changed the concept of chemotherapy. The majority of new drugs introduced to the clinics are of the molecular target-based varieties which are active only against a specific molecular target of tumor cells or tumor environment.

Global trials including Caucasian, Asian and African have identified ethnic differences in respect to effect and adverse events of some anticancer and molecular target drugs. For example, differences of frequency in SNPs in some drug metabolizing enzyme caused different incidence of severe adverse events. Among them, UGT 1A1 *28 and *6 are popular because they have been involved in the metabolism of camptothecin, which is one of key drugs for the treatment of lung cancer.

Frequency of EGFR mutation is quite different, 30-40% in Asian and less than 10% in Caucasian. The strategy for the treatment of Non-small cell lung cancer (NSCLC) is becoming different in Asian and Western countries. In Asian countries NSCLC should firstly be classified to EGFR wt and EGFR mt groups not only in clinical practice but also in clinical trials.

Adenocarcinoma is becoming a dominant histology even in Asian countries. Recent drug development depends on histological type of NSCLC. For example, bevacizumab to avoid bleeding targets non-squamous histology. Pemetrexed demonstrated relatively higher activity against non-squamous all carcinoma. On the other hand anti IGFR1 Ab has been targeted for squamous all carcinoma. Activities for translational research will be more important in near future to realize effective customized therapy against lung cancer.