Erlotinib improves progression-free survival as first-line therapy in advanced lung cancer

October 9 2010

For patients with advanced lung cancer whose tumors carry EGFR activating mutations, first-line treatment with erlotinib nearly tripled progression-free survival compared to a standard chemotherapy combination, show results from the first prospective Phase-III study to report findings in this setting.

The new results from the OPTIMAL trial were reported at the 35th Congress of the European Society for Medical Oncology (ESMO) in Milan, Italy.

"Erlotinib is very effective and well tolerated in advanced NSCLC patients who harbor EGFR activating mutations. It is 2 to 3 times more effective than doublet chemotherapy," said study leader Professor Caicun Zhou of Shanghai Pulmonary Hospital, Tongji University, China.

The OPTIMAL study included 165 patients whose lung cancer carried mutations activating the Epithelial Growth Factor Receptor (EGFR). Participants had not received systemic treatment for their cancer.

Of these patients, 83 were randomly assigned to receive erlotinib 150 mg/day, and 82 patients were assigned to receive a 'doublet' combination chemotherapy of gemcitabine and carboplatin. The primary endpoint of the study was progression-free survival.

In his presentation at the ESMO Congress, Prof Zhou reported that the median progression-free survival in the erlotinib arm was 13.1 months,

compared to 4.6 months for the chemotherapy arm of the study. The objective response rate with erlotinib was 83%, compared to 36% for gemcitabine plus carboplatin. 31 patients in the erlotinib arm are still under study and progression free compared to only 1 in the chemotherapy arm.

"OPTIMAL is the first reported prospective Phase-III study to confirm the role of erlotinib in advanced NSCLC patients with EGFR activating mutations," Prof Zhou said. "It does much better than the standard doublet chemotherapy and so we should start erlotinib treatment as soon as possible after the diagnosis of advanced NSCLC with EGFR activating mutations," he added.

Safety analyses showed lower rates of adverse events with erlotinib than with chemotherapy, the researchers report.

Also at the ESMO Congress, Professor Yi-long Wu from Guangdong General Hospital (GGH) & Guangdong Academy of Medical Sciences in China reported the first biomarker results from the study. This analysis aimed to evaluate the impact on various biomarkers with survival among the patient population.

"Detailed biomarker analysis did not identify additional markers that could be used to further optimize treatment decisions. It was found that patients who had exon 19 deletions in EGFR had longer progression-free survival with erlotinib than those with L858R mutations and only one patient had an EGFR T790M mutation, and remained progression-free for only 0.62 months," Prof Wu said.

The results of the OPTIMAL trial have implications for clinical practice, commented Dr Federico Cappuzzo, Director of Medical Oncology at Ospedale Civile in Livorno, Italy.

"These data, combined with data coming from another four large Phase-III studies comparing chemotherapy versus gefitinib, another orally available EGFR tyrosine kinase inhibitor (EGFR-TKI), confirmed that erlotinib or gefitinib represent the best therapeutical option we can offer today as front-line therapy in metastatic NSCLC with activating EGFR mutations."

Dr Cappuzzo noted that all studies so far in this setting have been conducted in Asian populations. A confirmatory study in Caucasian patients is currently ongoing.

Provided by European Society for Medical Oncology