

Gefitinib improves outcome in patients with advanced non-small cell lung cancer compared with standard chemotherapy

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Patients with advanced non-small cell lung cancer (NSCLC) face a poor prognosis; standard chemotherapy leads to a response in less than 1/3rd of the patients, and a mean survival period of less than 1 year. However, a significant proportion of NSCLC patients carry a somatic mutation of the epidermal growth factor receptor (EGFR); these patients appear to have a significant increased response (up to 70%) to gefitinib – a selective tyrosine kinase inhibitor of EGFR. A recent phase 3 trial tested the hypothesis that gefitinib would lead to better outcome compared with standard chemotherapy with carboplatin–paclitaxel in patients with advanced (metastatic) NSCLC and EGFR mutation, not previously treated with chemotherapy.

This study randomized 230 patients with NSCLC and EGRF mutation, to receive one of the above-mentioned treatments. The study was stopped prematurely after the interim analysis of the data from the first 200 patients showed a significant improvement of both the

primary endpoint (progression-free survival) and secondary endpoints (overall survival, response rate, and toxic effects) in the gefitinib-assigned group. Thus, the median progression-free survival was 10.8 months in the gefitinib group compared with 5.4 months in the chemotherapy group (HR, 0.30; 95% CI, 0.22 to 0.41; $P < 0.001$), leading to a median overall survival of 30.5 vs. 23.6 months ($P = 0.31$). Response rate was also higher in the gefitinib group (73.7% vs. 30.7%, $P < 0.001$). The most prevalent adverse reactions were rash and elevated liver enzymes in the gefitinib group (71% and 55%, respectively), compared with neutropenia, anemia, and neuropathy in the chemotherapy group (77%, 65%, and 55%, respectively).

Thus, the conclusion of this study was that “first-line [treatment with] gefitinib for patients with advanced NSCLC who were selected on the basis of EGFR mutations improved progression-free survival, with acceptable toxicity, as compared with standard chemotherapy”. □

Comment on a paper:

Maemondo M, Inoue A, Kobayashi K et al – North-East Japan Study Group. Gefitinib or chemotherapy for non-small-cell lung cancer with mutated EGFR. *N Engl J Med* 2010; 362:2380-2388