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Abstract

Lung cancer

EGFR MUTATIONS IN PATIENTS WITH NON-SMALL CELL LUNG CANCER (NSCLC) AND CORRELATION WITH SENSITIVITY TO ERLOTINIB

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Background: Erlotinib showed anti-tumor activity in patients with previously-treated advanced NSCLC, especially in female gender, never smokers and adenocarcinoma histology. Recent analyses have reported that mutations in the EGFR tyrosine kinasi domain underlie responsiveness to erlotinib.

We investigated HER1/EGFR gene mutations as potential predictive markers of clinical benefit with erlotinib.

Methods: From 01-01-06 to 31-12-06 we have observed 54 women with stage IIIb/IV adenocarcinoma and selected 32 (59.25%) on the basis of available tumor tissue.

Exons 19 and 21 of the EGFR TK domain were found mutated by direct sequencing in 9 (28% of selected). Erlotinib was administered in 18 (56.25% of selected) patients (pts), never smokers (150 mg/die until disease progression or inacceptable toxicity), 7 mutated (38.8% of treated) and 11 not.

Results: The median age of the 18 pts was 61 years (range 58–74). Median ECOG PS was 1 (range 0–1). After 8 weeks of treatment, of 7 patients with mutations the disease control rate (CR + PR + SD) was 100% with 1 CR, 4 PR, 2 SD and no PD, while of 11 women without mutations, disease control rate was 81.8% (9 pts) with, 1 CR, 2 PR, 6 SD and 2 PD.

Time to progression (TTP) of patients with of without mutations were 7.7 months and 5 months, respectively.

Conclusions: These preliminary data coming from clinical practice, confirm the efficacy of erlotinib in never smokers, adenocarcinoma and female and the non correlation of EGFR mutations with sensitivity to erlotinib. Therefore similar TTP was observed between pts with or without mutations. The biological mechanism of these EGFR mutations to the response remains to evaluate in future study.

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