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Title: Poor prognostic factors in advanced pulmonary adenocarcinoma patients receiving first-line gefitinib

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Body: Introduction: Gefitinib, an EGFR tyrosine kinase inhibitor, has been widely used as a first-line target therapy in advanced lung adenocarcinoma (adenoCa) with susceptible gene mutation, whereas some patients still have poor response. We tried to identify the factors predicting poor prognosis in patients of stage IV lung adenoCa, with susceptible gene mutation, receiving first-line Gefitinib. Method: Between Oct., 2009 and Dec., 2012, 47 patients of stage IV lung adenoCa were enrolled. Genetic testing of tumor or effusion samples confirmed presence of susceptible EGFR mutation in all patients. Patients who received no treatment or were lost to follow-up were excluded. Correlation between various clinical features was analyzed by Fisher's exact test. The relationship between progression-free survival (PFS) and various clinical features was investigated by survival analysis. Result: We enrolled 21 and 24 patients with mutation in exon 19 and 21, respectively. Two patients with exon 18 mutation were excluded due to small sample size. No significant difference in PFS was noted between patients with exon 19 and 21 mutations. Patients with pleural effusion or liver metastasis had significantly shorter PFS, whereas other factors, including smoking history, or metastasis to bone, lung, pleural, brain or adrenal gland, did not significantly affect PFS. Conclusion: Liver metastasis and pleural effusion suggested poorer PFS in patients receiving gefitinib for their stage IV lung adenoCA with susceptible gene mutations. Our findings demonstrated poor prognostic clinical factors and provided clues to investigate the underlying mechanism of treatment failure in those with susceptible gene mutation.