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Long-term Response to aumolertinib in NSCLC Harboring EGFR Mutation and High PD-L1 Expression: Case Report

Wanwan Cheng, Shencun Fang

Department of Respiratory Medicine, Nanjing Chest hospital, The Affiliated Brain Hospital of Nanjing Medical University, Nanjing, China

Introduction

Non-small cell lung cancer (NSCLC) with both epidermal growth factor receptor (EGFR) mutation and high programmed death-ligand 1 (PD-L1) expression is rare, and no therapeutic consensus has been reached. PD-L1 overexpression was associated with *de novo* resistance to 1st/2nd generation EGFR tyrosine kinase inhibitors (EGFR-TKIs). Checkpoint inhibitors (ICIs) are also lack of efficacy in these PD-L1+, EGFR-mutant patients either. These conditions further complicate the treatment options for these patients. Here, we present a case of advanced NSCLC with EGFR mutation and high PD-L1 that achieved a long-term response to the third-generation EGFR-TKI, aumolertinib.

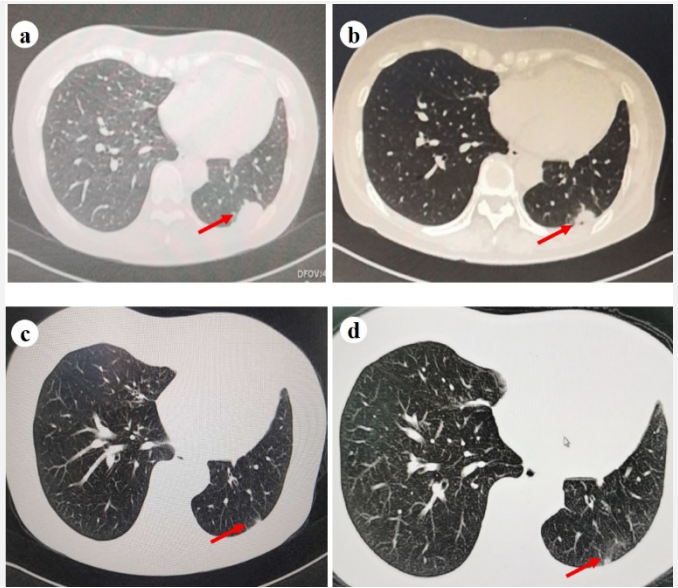

Figure1:
CT changes of lesions when aumolertinib was effective on the patient.

Case presentation

A 45-year-old female Asian non-smoker with stage IA poorly-differentiated lung adenocarcinoma (pT1aN0M0) harboring an EGFR del-19 mutation underwent left lower lobectomy and postoperative adjuvant chemotherapy in March 2016. Four years later, chest CT scan revealed a left lung subpleural mass approximately 3.0×1.7 cm with new metastatic nodules in both lungs(Fig.1a). NGS and immunostaining indicated an EGFR del-19 mutation and a strong positive expression of PD-L1 (TPS = 60%). Then she received aumolertinib (110 mg daily) as the first-line treatment in April 2020. Two months after aumolertinib, evaluation results revealed that the left lung mass shrank and the evaluation reached partial response (PR) (Fig.1b). Surprisingly, after three months of aumolertinib, the left lung mass and other metastatic nodules vanished(Fig.1c). Finally, complete response was attained. The patient had been receiving aumolertinib for 24 months, and no evidence of malignancy recurrence was seen on spiral CT in April 2022(Fig.1d).

Conclusion

Studies have suggested that NSCLC with EGFR mutations and high PD-L1 may have a worse prognosis and poor response to targeted therapy. Considering the benefit, tolerability, and safety, we offered aumolertinib to our patient. To the best of our knowledge, this is the longest PFS for these patients and the first of aumolertinib in the treatment of NSCLC patients with both EGFR mutation and high PD-L1 expression, which provides supporting data for the use of aumolertinib in these patients.

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E-mail: fang1984@aliyun.com