To the Editor: A 32-year-old Chinese male patient with 1 week cough and dyspnea on exertion was presented to hospital. He was a metastatic lung adenocarcinoma patient with 3 years treatment history. In October 2012, the patient complained cough, short of breath, and thoracic computerized axial tomography scan (CAT-scan) revealed left lung hilum mass with the right lung multissmall patches or opacities. Core needle biopsy on supraclavicular lymph nodes was performed and diagnosis of Stage IV (T3N3M1a) lung adenocarcinoma was made by radiologist, pathologist, and oncologist. Chemotherapy with cisplatin and pemetrexed was initiated and a partial response (PR) was reached. After 6 cycles of double-bullet chemotherapy, maintenance therapy with pemetrexed was used. In January 2014, positron emission tomography-computed tomography scan revealed interstitial lung fibrosis change on both lungs and obvious rales or wheezes on chest auscultation. Oxygen saturation was 98%. Blood works results were all within normal range. CAT-scan revealed interstitial lung fibrosis change on both lungs and obvious ground-glass opacities on the right upper lung [Figure 1a]. After carefully reviewed patient’s history and series CAT-scan, drug-induced acute interstitial lung disease (ILD) was confirmed by pathologist, radiologist, and oncologist.

Because AZD9291 was the 4th line therapy of this patient, stop taking it to avoid worsening ILD was quite dangerous for him.
ILD is a rare complication during EGFR-TKI therapy, about 1–3% patients will acquire it. The mechanism of TKI-induced ILD is not very clear, TKI interrupting type II pneumocytes and alveolar wall repair may play an important role.\(^3\)

There is no standard guideline for the treatment of TKI-induced ILD; current management includes oxygen inhalation, drug discontinuation, and high-dose and prolongs corticosteroids or immunosuppressive. High-dose N-acetylcysteine alleviates pulmonary fibrosis in rats but needs further study in human.\(^4\) The patient had been treated with multiline therapies, maintenance 3\(^{rd}\) generation EGFR-TKI is the most reliable method to sustain patient’s survival. We reduced 50% dosage of the drug administration according to the half-life and metabolic characters of it,\(^1\) to maintain effective blood drug concentration and maximally reduce its side effects.

Drug-induced ILD is a severe and a fatal complication if not intervened promptly. This case showed that early diagnosis and early intervention of this complication is critical important during TKI treatment of advanced nonsmall cell lung cancer. AZD9291 dose reduction and aggressive corticosteroid treatment could be a promising treatment option for patient who required 3\(^{rd}\) generation TKI to maintain disease remission. Clinical physicians must cautiously weigh the benefits and risks of targeted therapies causing ILD in order to provide optimal treatments and favorable outcomes.

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**Conflicts of interest**
There are no conflicts of interest.

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