Drug-related pneumonitis induced by osimertinib as first-line treatment for EGFR-positive non-small cell lung cancer in real-world settings

Yuki Sato1, Hirotsuru Sumikawa1, Ryota Shiohara1, Takashi Morimoto2, Yoshitaka Sakata2, Yuko Oga1, Motohiro Tanaya1, Hidekazu Suzuki1, Hiroshi Motomoto1, Takashi Kijima3, Kazuki Hashimoto1, Hiroshi Kobel1

Aoi Hino1, Megumi Inaba1, Yoko Tsukita1, Hideki Ikeda1, Daisuke Arai1, Hirobaka Maruyama1, Shinya Sakata1, Daichi Fujimoto1, Osu-FACT ILD investigators

1Department of Respiratory Medicine, Kobe City Medical Center General Hospital, Hyogo, Japan; 2Department of Radiology, National Hospital Organization Kochi Chuo Chest Medical Center, Kochi, Japan; 3National Defense Medical College, Saitama, Japan

Keywords: Radiologic analysis (n = 4) Consent form not obtained (n = 9)

Study Schema

- Sub-study of Osu-FACT

Conducted in 18 Japanese sites

All chest CT data were collected

Data cut off: June 2020

Methods

Definition:
- TAPO: asymptomatic DRP that improved within 2 months from the start of treatment

- Key endpoints:
  - Radiographic Pattern: severity and time to onset of DRP, PFS, OS
  - TAPO: asymptomatic DRP that improved within 2 months from the start of treatment

- Results

- Impact of presence of DRP on treatment outcome (A) and subsequent treatment outcome according to radiographic pattern in cases with DRP (B).

- Discussion

- For osimertinib treatment in first-line settings, 18% of patients were diagnosed with DRP (all grades), and 4.6% had grade 3 DRP, which is considerably higher than that observed in global clinical trials. We propose that clinicians should pay special attention to DRP in real-world settings.

- Regarding the CT patterns, organizing pneumonia, simple pulmonary eosinophilia, hypersensitivity pneumonitis, diffuse alveolar damage, and non-specific interstitial pneumonia were found in 30, 21, 18, 9, and 2 patients (38%, 26%, 23%, 11%, and 3%, respectively). The distribution is highly consistent with the previous reports on previously treated T790M+ cases. J Thorac Oncol 2020; 15(12):1839-1906

- In multivariate analysis, smoking history was identified as an independent risk factor for DRP. In this study, ILA and fibrotic ILA were not significant risk factors for DRP. However, the number of patients with ILA or fibrotic ILA included in this study was small; thus further large-scale studies to identify DRP risk factors with osimertinib treatment are warranted.

- Among the patients with DRP, 46% were identified as having TAPO. In the 3-month landmark analysis, DRP was associated with poor treatment efficacy; however, the presence of TAPO did not negatively affect treatment efficacy.

For detailed information, please refer to https://doi.org/10.1016/j.chest.2022.05.035