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Case Report

Two Cases of Pneumocystis In Patients Treated with Osimertinib

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1. Background

The first-line treatment in patients with advanced lung adenocarcinoma and EGFR-activating mutation is osimertinib 80 mg/day [1]. In patients with advanced adenocarcinoma of the lung and EGFR exon 20 mutation, osimertinib 160 mg/day can be given off-label after at least one line of treatment [2]. Here we report two cases of pneumocystis in patients treated with osimertinib.

2. Case Report

Patient 1 was a 78-year-old patient treated for stage IVB adenocarcinoma of the lung with EGFR-activating mutation. First-line treatment with osimertinib 80mg/day was initiated on day 10 (12/26/2019), followed by osimertinib 40 mg/day on day 52 (renal and cutaneous side effects were observed). The patient was hospitalized on day 162 for dyspnea. A thoracic CT scan showed ground-glass interstitial lung disease (Figure 1). Biological results confirmed the presence of grade 2 lymphopenia (with a nadir of 0.7 G/L), which had appeared at day 40. Bronchoalveolar lavage was positive by PCR for *Pneumocystis carinii*. HIV serology was negative. The patient was treated with corticosteroids 1mg/kg with gradual decrease and cotrimoxazole, but developed digestive and cutaneous side effects. She was then treated with wellvone, which led to clinical and radiological improvement (Figure 1).

Patient 2 was a 76-year-old patient treated for stage IVA adenocarcinoma of the lung with EGFR exon 20 mutation. Third-line treatment with osimertinib 160 mg/day was initiated on day 53. The patient was hospitalized on day 84 for

dyspnea. A thoracic CT scan showed ground-glass interstitial lung disease (Figure 2). Biological results showed grade 0 lymphopenia (with a nadir of 1.09 G/L), which was attributed to the use of osimertinib. Induced sputum was positive by PCR for *Pneumocystis carinii*. HIV serology was negative. The patient was treated with corticosteroids 1 mg/kg with gradual decrease and cotrimoxazole, but developed neurological side effects. She was then treated with atovaquone, which led to clinical and radiological improvement (Figure 2).

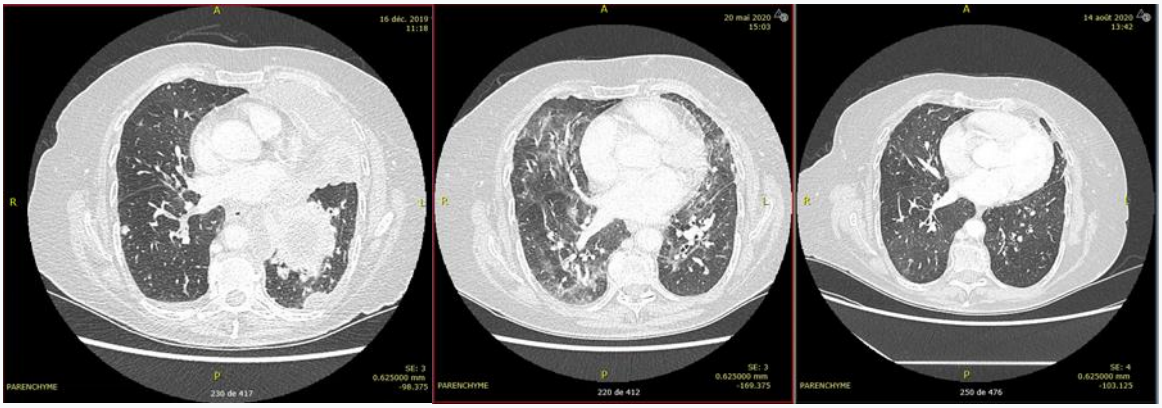

Figure 1: Parenchymal CT scan of Patient 1 before treatment with osimertinib (day 1), before anti-pneumocystis treatment (day 156), and after anti-pneumocystis treatment (day 242).

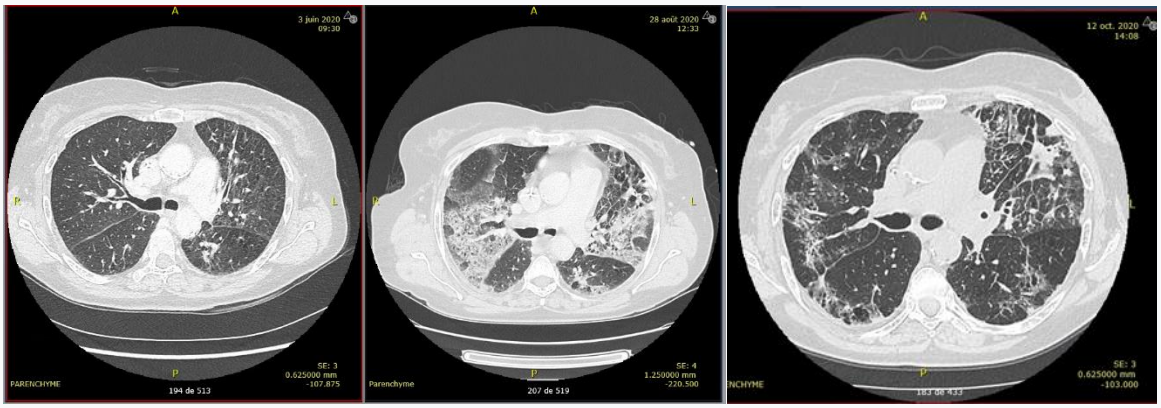

Figure 2: Parenchymal CT scan of Patient 2 before treatment with osimertinib (day 1), before anti-pneumocystis treatment (day 86), and after anti-pneumocystis treatment (day 131).

3. Discussion

In the FLAURA and AURA studies (AURA3, AURAex, AURA2, and AURA1), lymphopenia as a side effect of osimertinib was found in 67% of included patients, of whom 7.2% had grade 3 lymphopenia [3]. No other cases of pneumocystis in patients treated with osimertinib were found in the literature or in public databases [4-5]. These two cases raise the question of prophylaxis for pneumocystis in patients with lymphopenia due to osimertinib.

References

1. Soria J-C, Ohe Y, Vansteenkiste J, et al. Osimertinib in Untreated EGFR-Mutated Advanced Non-Small-Cell Lung Cancer. N Engl J Med 378 (2018): 113-125.
2. Piotrowska Z, et al. - ASCO® 2020 – Abs.#9513.
3. Summary of product characteristics – Osimertinib.
4. Public drug database. available at http://basedonnees-publique.medicaments.gouv.fr/
5. Hematox®. available at http://www.biourtox.com/Mediquick7/Abstract.cfm?id_dci=1268

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