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IMAGING IN INTENSIVE CARE MEDICINE

Spectacular improvement of lung computer tomography after treatment with EGFR tyrosine kinase inhibitor for miliary carcinomatosis

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A 59-year-old African non-smoking male patient was admitted to the intensive care unit (ICU) for acute respiratory failure in the context of recent discovery of lung nodules. Chest x-ray and computed tomographic pulmonary angiography showed disseminated vascular distributed solid nodules compatible with miliary carcinomatosis. He received high-flow nasal canula oxygen therapy but despite antibiotherapy adapted to sputum examination quickly required invasive mechanical ventilation. The severity of hypoxemia (PaO_2/FiO_2 ratio 60 mmHg) led to prone positioning and neuromuscular blocker treatment. A CT-guided biopsy confirmed the diagnosis of lung adenocarcinoma with deletion of exon 19 in the epidermal growth factor receptor (EGFR) gene. Specific treatment with osimertinib, an EGFR tyrosine kinase inhibitor (TKI), was started. As a result of the bad prognosis of the underlying disease, extracorporeal membrane oxygenation was denied and "standby" resuscitation was prolonged pending the clinical response under TKI treatment. After 10 days of progressive improvement with the TKI treatment, the PaO_2/FiO_2 ratio had improved to 333 mmHg without neuromuscular blocking agent. New thoracic imaging showed an impressive improvement of lung nodules (Fig. 1). Despite the quick effectiveness of TKI treatment, the patient died in the ICU of ventilator-associated pneumonia 1 month after respiratory improvement.

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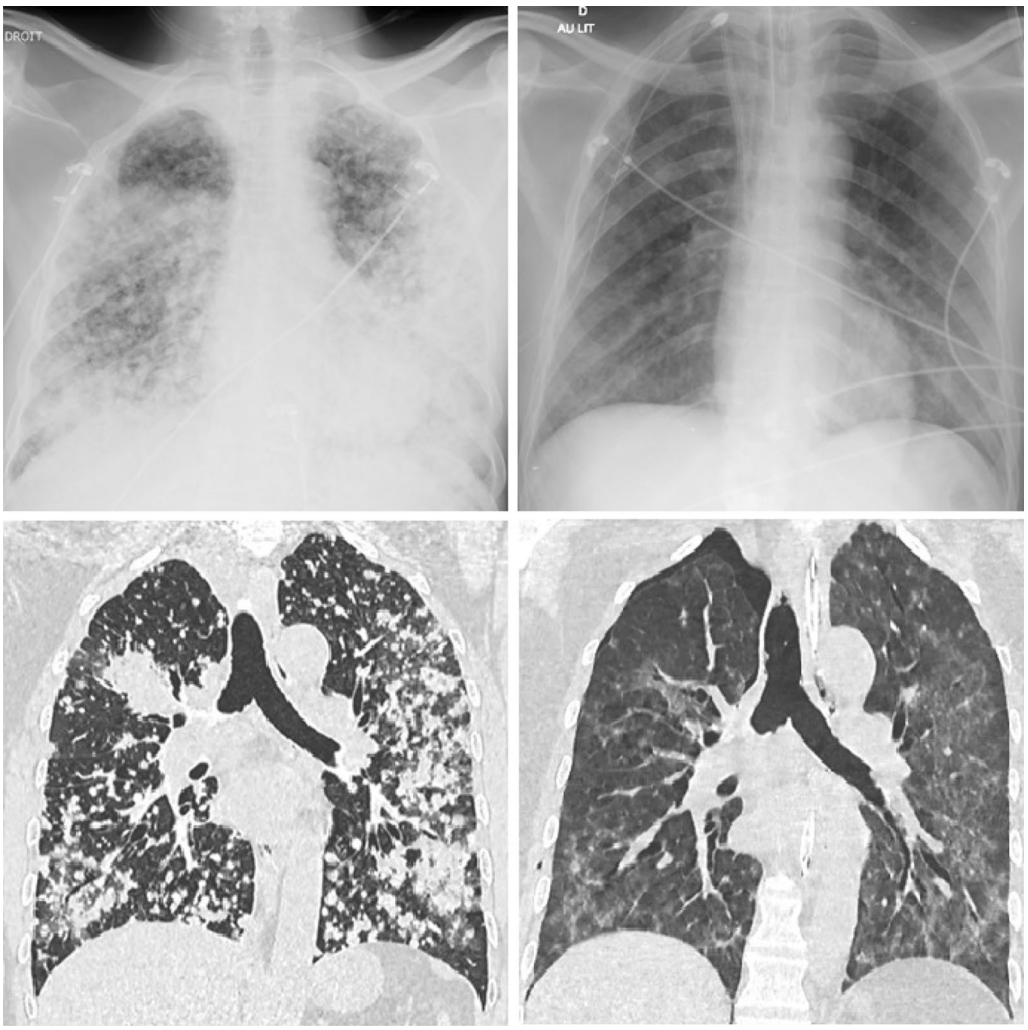

Fig. 1 Improvement of pulmonary imaging after 10 days of treatment with an EGFR tyrosine kinase inhibitor for miliary lung adenocarcinoma

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Compliance with ethical standards

Conflicts of interest
On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical approval
An approval by an ethics committee was not applicable.

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